

***SITE INSPECTION REASSESSMENT
FINAL REPORT***

Thiokol-Specialty Chemicals Division

**Newell, Hancock County, West Virginia
CERCLIS (WVD074968413)**

TRIAD Project 01-05-0209

Submitted to:

**West Virginia Department of Environmental Protection
Office of Environmental Remediation
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ACRONYM GLOSSARY

Blazer	Acifluoren
BNA	Base Neutral Acids
CEC	Civil and Environmental Consultants, Inc.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CLP	Contract Laboratory Program
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
CRDL	contract required detection limit
DAS	USEPA Delivery of Analytical Services
DQO	Data Quality Objective
DSN	Data Source Number
EDR	Environmental Data Resources, Inc.
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HRS	Hazard Ranking System
LUST	Leaking Underground Storage Tank
MCL	maximum contaminant level
MS/DUP	Inorganic Matrix Spike/Matrix Duplicate
MS/MSD	Organic Matrix Spike/Matrix Spike Duplicate
msl	mean seal level
NewChem	NewChem, Inc.
Newell	Newell Specialty Chemicals, Inc.
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
OER	Office of Environmental Remediation
PA	Preliminary Assessment
PAH	Polynuclear aromatic hydrocarbons
POLREP	Pollution Report
RBC	Risk-Based Concentration
Prowl	Pendimethalin
PRP	Potentially responsible party
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAS	Routine Analytical Services
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SDWIS	Safe Drinking Water Information System

ACRONYM GLOSSARY

SIR	Site Inspection Reassessment
SOW	Statement of Work
SVOC	Semi-volatile organic compounds
TCE	Trichloroethene or trichloroethylene
TCLP	Toxicity Characteristics Leaching Procedure
TDL	Target distance limit
TIC	tentatively identified compounds
TRIAD	TRIAD ENGINEERING, INC.
TSCD	Thiokol-Specialty Chemicals Division
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile organic compounds
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Department of Natural Resources
WVDWR	West Virginia Department of Water Resources

1.0 INTRODUCTION

TRIAD ENGINEERING, INC. (TRIAD) has prepared this *Site Inspection Reassessment Report* for the United States Environmental Protection Agency, Region III (USEPA) and the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER). This report has been prepared under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1988 (SARA) under a Pre-Remedial Cooperative Agreement between the USEPA and the WVDEP.

The Thiokol-Specialty Chemicals Division CERCLIS Site (the Site) has Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) site designation WVD074968413 and State Data Source Number (DSN) WV-182. The Site was listed on CERCLIS in February 1983 following Resource Conservation and Recovery Act (RCRA) inspections that revealed numerous waste handling violations. The West Virginia Department of Natural Resources (WVDNR) performed a Preliminary Assessment (PA) in 1984 following remedial activities performed by Morton Thiokol, Inc. as part of a 1982 closure plan. The PA recommendations included further investigation of the groundwater, surface water, and soil pathways, as well as the potential migration of contamination to off-site properties. RCRA violations continued under new ownership by Newell Specialty Chemicals (NSC) from 1984 through 1997 resulting in the indictment of two senior managers on charges of fraud and illegally transporting and disposing of hazardous waste. NewChem, Inc. (NewChem) purchased the facility in 1997 as part of a bankruptcy agreement. NewChem assumed all environmental liability for the Site and has removed all the drummed waste that remained from NSC's activities. NewChem is currently performing site assessment activities under a consent order issued by USEPA. However, the USEPA and WVDEP, OER determined a Site Inspection Reassessment (SIR) was warranted to assess potential risk associated with the Site and has determined the Site should undergo further investigation under CERCLA. This *SIR Report* has been prepared under Tasks 4 of the approved Work Plan, WVDEP, OER Contract DEP12775.

Prior to preparing this *SIR Report*, TRIAD performed various work tasks relative to the Thiokol-Specialty Chemicals Division CERCLIS Site, including preparing the following deliverables for the USEPA and WVDEP, OER:

- *Conflict of Interest* disclosure as per the requirements of 40 CFR Part 35.6550 (Subpart O), submitted August 22, 2003 under contract number DEP8771D, work order number SUPER/217C.
- *Executive Summary Report* which included a summary of available WVDEP and USEPA project files, observations of a site reconnaissance, and the calculation of a preliminary Hazard Ranking System (HRS) site score; submitted December 31, 2004 under contract number DEP8771D, work order number SUPER/217C.
- *Sampling and Analysis Plan (SAP)*, which included a *Field Sampling Plan (FSP)*, *Quality Assurance Project Plan (QAPP)*, and *Health and Safety Plan (HASP)* submitted May 3, 2005 under contract number DEP12775.
- *Field Sampling Report* at the conclusion of the field investigations, submitted May

22, 2006 under contract number DEP12775.

In addition to these deliverables, OER requested that TRIAD perform a preliminary screening level risk assessment to assess potential risk associated with the Thiokol-Specialty Chemicals Division CERCLIS Site. This “preliminary” screening-level assessment includes the following work tasks:

- Identifying contaminants of potential concern (COPCs) and then selecting contaminants of concern (COCs).
- Identifying areas of potential environmental concern, contaminant migration pathways, exposure pathways, and potential human health and ecological receptors.
- Preparing this *SIR Report*, which includes performing a preliminary HRS evaluation using the USEPA QuickScore computer model, and providing recommendations.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Location

The Thiokol-Specialty Chemicals Division CERCLIS Site is located in Hancock County, West Virginia approximately 3.5 miles southwest of Newell, West Virginia and is adjacent to West Virginia State Route 2.

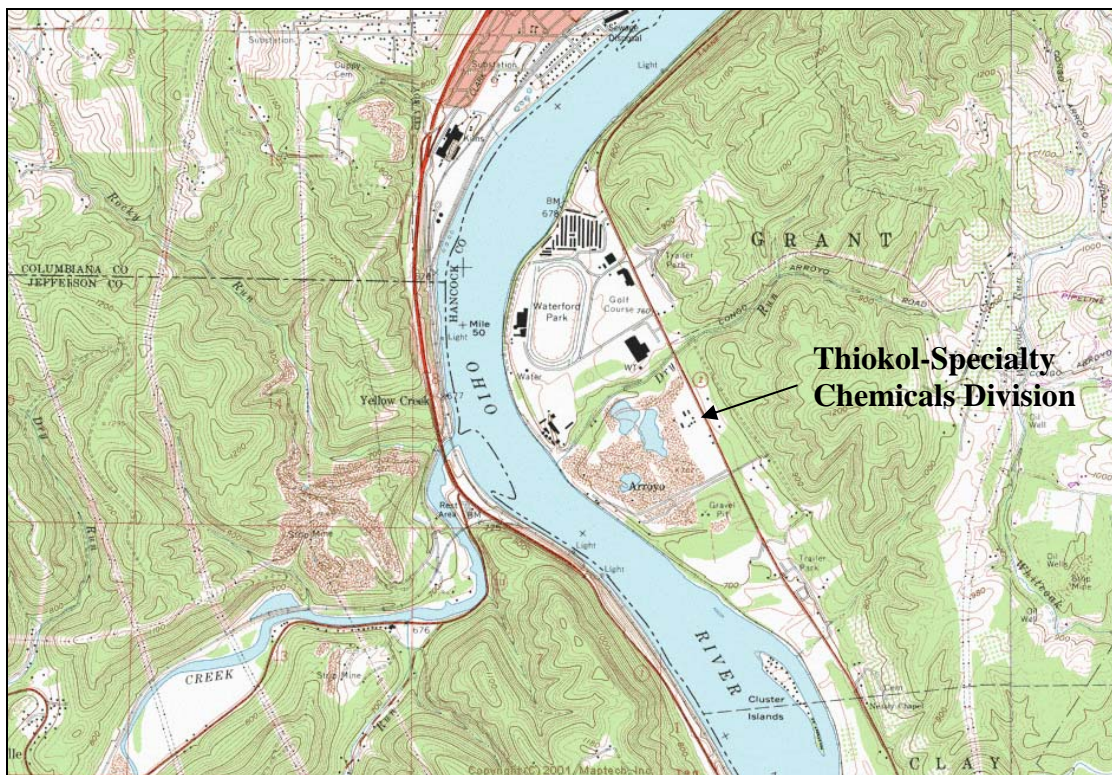


Figure 1. Site Location Map, USGS 1992

The Site location is depicted on the *Wellsville, Ohio-W. Va. 7.5-minute United States Geological Survey (USGS) topographic quadrangle map*, photorevised in 1992, and is presented on the previous page as **Figure 1, Site Location Map**. Coordinates for the Site are 40°34'28" north latitude and 80°38'58" west longitude. The mailing address for the Site is 7743 Ohio River Blvd, New Cumberland, West Virginia 26047.

2.2 Site Description

The facility is now operated by NewChem, a subsidiary of Deltech Resins Company. NewChem performs custom organic chemical manufacturing, solvent recovery and drying, as well as production of powder biocides. The primary site features are as the follows:

- Laboratory and service building,
- Warehouse,
- 13,400 square-foot clean water storage reservoir,
- Process buildings,
- Two bulk storage tank farms encompassing approximately 20 above-ground storage tanks (ASTs),
- Support building; including shop, compressor room, and boiler room, and
- Hazardous waste drum storage pad

The general site features and former surface water discharges are depicted below on **Figure 2, General Site Features (NUS, 1987)**.

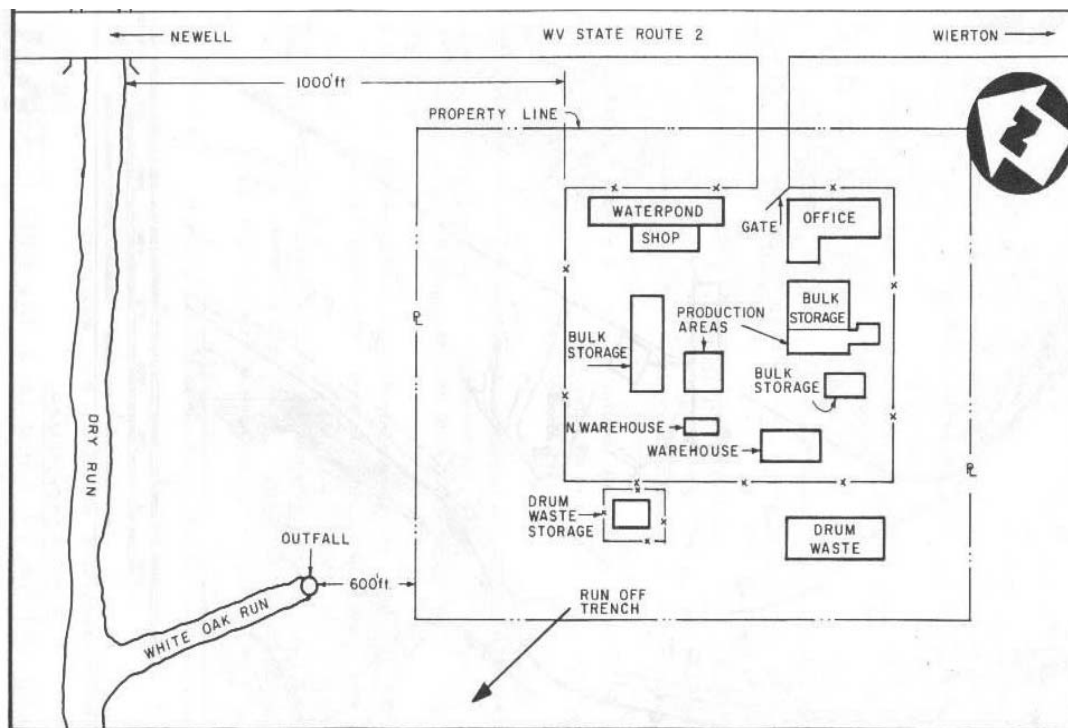


Figure 2. General Site Features (NUS, 1987) not to scale.

The Site is 13.71 acres, approximately six acres of which are the manufacturing portion of

the facility. The remainder of the Site is wooded. The manufacturing portion of the facility consists of a production area that is gated and fenced and a drum storage area located west of the production area, also gated and fenced. The Site is relatively flat with a steep hillside at the western edge of the property that leads down to a former gravel quarry and ponds remaining from quarrying operations; beyond is the Ohio River located approximately 0.5 mile from the Site. Access to the Site is via State Route 2.

2.3 Standard Environmental Records

TRIAD contracted with Environmental Data Resources, Inc. (EDR) to provide both standard and additional environmental records from federal, state, and local databases to obtain information regarding potential recognized environmental conditions within a one mile search distance of the Site. The EDR database report is included in the attached **Appendix 1, Environmental Data Resources, Inc. Report.**

20 sites were identified in the various databases. However, due to poor or inadequate address information these “orphan sites” could not be mapped by EDR. Thiokol-Specialty Chemical Division is listed as an orphan site. In addition there are eight registered UST orphan sites, five CERCLIS sites, six RCRA small quantity generators, one RCRA large quantity generator, and one solid waste landfill. Based on the given address information and distance from the Site Property, these additional “orphan sites” do not appear to represent an environmental concern at the Site Property. For a complete listing of the orphaned sites please refer to page 7 of Appendix 1.

2.4 Uses of Adjoining Properties

Properties that adjoin the Site are as follows:

Adjoining Property Observations

Direction	Boundary Feature	Topographic Relation	Environmental Concerns
North	White Oak Run which discharges to Dry Run, a tributary of the Ohio River; Marsh Bellofram Corporation, a manufacturer of air regulators, electro-pneumatic transducers, air cylinders, diaphragm seals, gauges, and thermometers; and the entrance to the Mountaineer Race Track and Gaming Resort.	Up Gradient	No.
East	State Route 2, a former gasoline station, and commercial establishment.	Up Gradient	Yes.
South	Former asphalt plant.	Cross Gradient	Yes.

West	A former gravel quarry with associated surface water ponds and the Ohio River. BOC Gases, a division of the BOC Group, which produces and transports liquid petroleum gas.	Down Gradient	No.
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The identification and exact location of the former asphalt plant had been difficult to ascertain due to interviews with local residences and employees of NewChem disagreeing as to the location of the plant relative to the Thiokol-Specialty Chemicals Division CERCLIS Site. Research of available USGS historical aerial photographs did not depict an asphalt plant. On June 14, 2006, Bill Wentworth of the USEPA provided TRIAD a previously unknown 1981 United States Department of Agriculture (USDA) aerial photograph of the Site. What appears to be the former asphalt plant is clearly visible southeast of the Site. See **Figure 2, 1981 Aerial Photograph** below. A 1994 USGS aerial photograph depicts the location of the former asphalt plant as an open field; therefore, the asphalt plant ceased operation sometime prior to 1994.

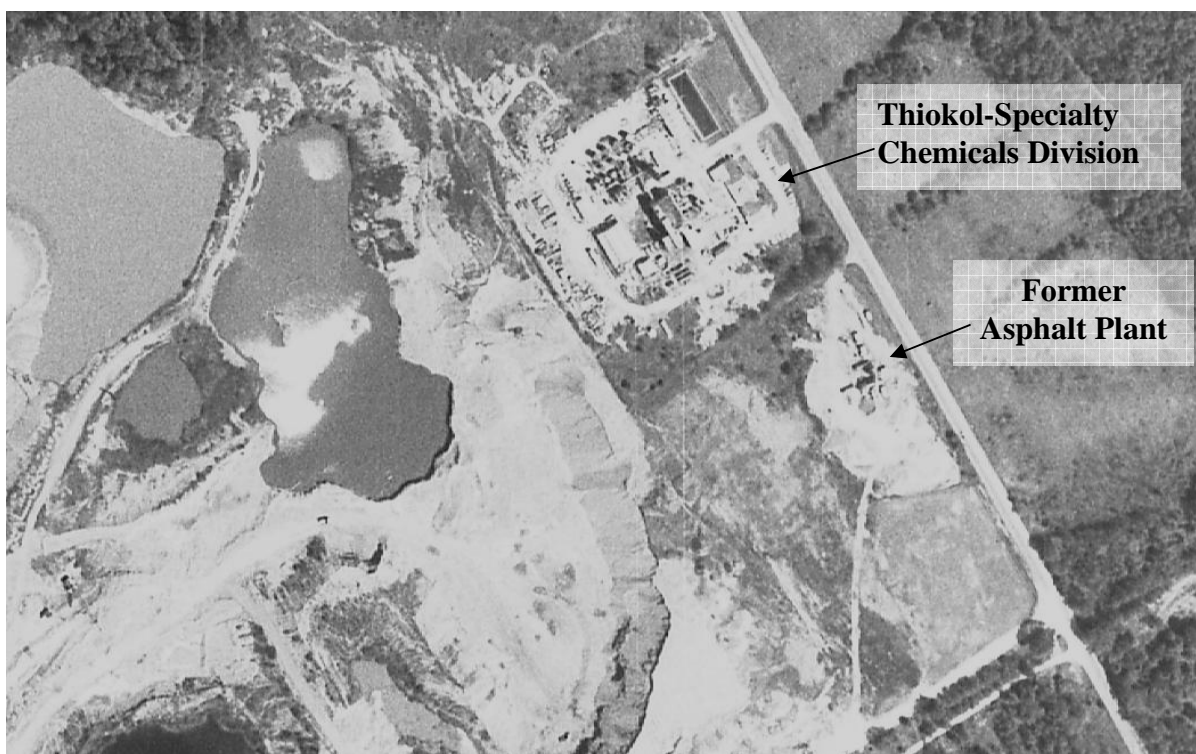


Figure 3. 1981 Aerial Photograph, USDA.

Adjoining properties identified as potential environmental concerns are the former gasoline station and former asphalt plant location. The former gasoline station is a concern due to potential groundwater contamination from leaking underground storage tanks (LUST). However, there are no registered LUST sites within a one-mile radius of the Site (**Appendix 1**).

The former asphalt plant is a concern due to the potential storage and use of paints, cleaning solvents, and petroleum based fuels or lubricants. In addition, polynuclear aromatic hydrocarbons (PAHs) are known to be generated during asphalt production. According to *Environmental Contaminants Encyclopedia, Asphalt Entry* (July 1, 1997, Roy J. Irwin, National Park Service), asphalt plant raw materials, intermediate products, final products, and waste products generated during manufacture and use are copper, dichloroethane, ethylenediamine, phenols, and PAHs.

There are no residential properties adjoining the Site. The closest residence to the Site is approximately 1,500-feet southeast along State Route 2.

2.5 Historical Operational Activities

The following historical operations timeline was developed based upon the files available for review from the WVDEP and USEPA. Ownership and purchase dates were confirmed by the Hancock County Tax Assessor's records located in the Hancock County Courthouse, New Cumberland, West Virginia. A review of historical aerial photographs of the area from June 1938, April 1956, and April 1997 and historical topographic maps from 1904, 1915, and 1944 did not provide additional information regarding the Thiokol-Specialty Chemical Division Site.

The 1938 and 1956 aerial photographs did not depict any site activity other than what appeared to be agricultural use. Based on the alignment of trees in the Site area, it is most probable an orchard was operated at the Site prior to its development for manufacturing. Orchard operations prior to and immediately following World War II commonly used lead arsenate as a pesticide.

2.5.1 Pre Thiokol-Specialty Chemicals Division 1956-1979

Industrial activity began on the property in the fall of 1956 when Koppers Company purchased the property and built a plant for the manufacture of coal-tar derivatives. In 1966, the plant was purchased by Custom Chemicals who converted the plant to specialty chemicals manufacturing. The plant was purchased by Antox, Inc. in 1969 and was later sold to General Investors, Inc. in 1974 and then to Southwest Specialty Chemicals, Inc. in 1979. Since the mid 1960's, only organic chemicals have been produced.

A water pollution control permit (number IW-5886-76) was issued in September 1976 by the West Virginia Department of Water Resources (WVDWR) for the discharge of non-contact cooling water into White Oak Run. The USEPA also issued a National Pollutant Discharge Elimination System (NPDES) permit (number WV0023469) in September 1977. The discharge was identified as Outfall 001. The permits both expired in 1982 and were not reissued due to pollution violations from the discharge, based on contaminated sediments in White Oak Run and Dry Run. The contaminant was identified as phenolics (*Site Inspection Report Using Available Information for Thiokol-Specialty Chemical Division*. NUS Corporation, Superfund Division, June 4, 1987).

2.5.2 Thiokol-Specialty Chemicals Division 1979-1982

In 1979, Thiokol-Specialty Chemicals Division (TSCD) operated at the Site as a subsidiary to, and under the ownership of, Southwest Specialty Chemicals, Inc. TSCD operated a hazardous waste management facility beginning on November 19, 1980.

TSCD retrofitted the plant for use in herbicide manufacturing, making primarily acifluoren and pendimethalin under the trade names of “Blazer” and “Prowl” respectively. RCRA inspections during this time period documented poor waste management practices such as open and leaking drums, stained soils, discolored pools of standing water, and “small bits of colored solids” on the ground. Operations by TSCD were discontinued in 1982 after the company merged with Morton-Norwich.

2.5.3 Morton Thiokol, Inc. 1982-1984

Morton Thiokol, Inc., headquartered in Trenton, New Jersey, was formed from a merger of Thiokol-Specialty Chemicals Division with Morton-Norwich. The property remained under the ownership of Southwest Specialty Chemicals, Inc.

The plant operated under the name of Morton Thiokol, Inc. for only two years. Again, RCRA inspections during this time period documented poor waste management practices similar to those of TSCD. Morton Thiokol, Inc. submitted a certification of closure to the USEPA in May 1984. The closure included the following:

- The removal of all hazardous and non-hazardous waste drums from the drum storage areas (estimated to be over 1,000 drums),
- the clean-out of reactors and tanks,
- the removal and disposal of contaminated materials at the emergency release lagoon,
- the removal and disposal of contaminated materials at chemical spillage areas on the Site property,
- the removal and disposal of sludge which had accumulated from the process areas,
- and closure of an underground storage tank (UST). The contents of the UST are unknown.

It was estimated 100 cubic yards of material and/or contaminated soils were disposed during remediation activities. Morton Thiokol, Inc. would not accept liability for the clean up of contaminated sediments from White Oak Run and Dry Run due to the untreated discharge from Outfall 001. Nor would they accept environmental liability for a spring discharge area west of the Site. This was due to the history of other chemical companies operating at the Site. It is unclear from the project files if remediation of contaminated sediments or soils has occurred in these areas.

2.5.4 Newell Specialty Chemicals, Inc. 1984-1997

The facility was purchased by Newell Specialty Chemicals, Inc. (Newell) in 1984.

Detailed information concerning the operations of Newell is not available; however, multiple RCRA violations associated with drum labeling and storage requirements occurred during their operational history. In addition, violations were noted for standing wastes inside of secondary containment structures, failure to maintain secondary containment structures, failure to inspect and maintain tanks, spills and accumulations of liquids in sumps and puddles, untreated discharge to Dry Run via Outfall 001, and numerous other violations. Drum inventories from this time frame include a wide range of organic chemicals stored on site.

The USEPA issued a Consent Order to Newell in 1990. Newell declared Chapter 11 bankruptcy in 1993, then Chapter 7 bankruptcy in 1996. Newell pled guilty to one count of a 16-count indictment for mail fraud, violations of hazardous waste storage, transportation and disposal regulations, and violations of the Clean Water Act. The company also pled guilty to one count of conspiring to commit mail and wire fraud by taking money from customers to dispose of wastes generated during the manufacture of customers' products, but instead, storing the waste on site for several years. Newell's corporate sentencing followed the May 28, 1996 sentencing of its chief executive officer (and majority stockholder) and two former vice presidents. These officers had been charged in the original indictment.

Newell was issued a "Cease and Desist Order" from the WVDEP in May 1996. A bankruptcy trustee was appointed to oversee closure of the Site.

2.5.5 NewChem, Inc. 1997-Present

A new group of investors formed NewChem, Inc. and purchased the facility and property "as is" from the bankruptcy court on August 1, 1997. As part of the purchase agreement, NewChem assumed all environmental liability for the Site, including the waste generated by Newell Specialty Chemicals, Inc. NewChem operates as a specialty chemical manufacturing facility. Services provided include custom chemical manufacturing, solvent recovery, and production of powder biocides. Under Consent Orders, NewChem has been performing monitoring and remediation, waste characterization, and disposal of waste accumulated from historical activities at the Site.

2.6 Historical Site Investigations

The WVDEP, OER and USEPA project files indicate environmental investigations were performed at the Site beginning in 1981 and continue through the present. Discussions of the investigatory and sampling activities performed during this time period are summarized in this section in chronological order.

2.6.1 August 28, 1981 – Benthic Survey, WVDNR, Division of Water Resources

The WVDNR, Division of Water Resources, conducted a benthic survey of White Oak Run as part of a water pollution control permit renewal. During the survey, a very strong pungent solvent odor was noted at White Oak Run immediately downgradient of the Site. No benthic organisms were observed and a "greenish-yellow oily film oozed" from the bottom sediments of White Oak Run. Thiokol-

Specialty Chemicals Division, Inc. was determined to be out of compliance and the permit was not renewed. The USEPA was contacted by the WVDNR requesting a site inspection be performed.

2.6.2 July 2, 1982 –Field Review, WVDNR, Division of Water Resources

The WVDNR, Division of Water Resources, conducted a field review for a permit application submitted by Shippingport Sand and Gravel. Shippingport Sand and Gravel bordered the Site to the west/southwest and was downgradient of Thiokol Specialty Chemicals, Inc. A seep, reported to be 20 feet across and upgradient of a pond, was observed by Shippingport Sand and Gravel. The seep had a visible sheen and distinctive odor. The inspector was unable to collect sufficient sample volume for analysis.

2.6.3 July 23, 1983 – Preliminary Survey Report, USEPA

According to the *Interim Report #1-Preliminary Report on Results from Preliminary Survey for Thiokol Specialty Chemical Co.*, the USEPA collected and analyzed surface soil and surface water samples at the Site in 1982. In addition, bioassay testing was performed on aquatic organisms and earthworms. The aquatic bioassay results indicated no acute negative toxicological effect from water collected at the Site; however, there was an adverse impact to the earthworms based upon a soils contact test, leading to the conclusion that there may be water insoluble toxic substances in the soils at the Site.

Elevated concentrations of PAHs, chlorinated volatile organic compounds, pesticides, diphenylamine, and phenols were detected.

2.6.4 December 18, 1984 – Preliminary Assessment, WVDNR

The WVDNR performed a Preliminary Assessment (PA) in December 1984, only five months after Newell Specialty Chemicals, Inc. acquired the Site. At the time of the site visit, Newell Specialty Chemicals, Inc. was not in full production and had not generated any waste.

The PA recommendations included further investigation of the groundwater, surface water, and soil pathways, as well as the potential migration of contamination to off-site properties.

2.6.5 June 4, 1987 – NUS Corporation, Superfund Division, Site Inspection

NUS Corporation was tasked to perform a site inspection of the Thiokol-Specialty Chemicals Division Site under a work directive issued by the USEPA. The scope of work consisted of using only the available information and a site visit.

2.6.6 May, 1992 – Site Inspection, DUNN Corporation

The DUNN Corporation was tasked to perform a site inspection of the Thiokol-Specialty Chemicals Division Site under a work directive issued by MIC Consulting on behalf of Newell Specialty Chemicals, Inc. The scope of work included monitoring well installation and collection of surface soil, subsurface soil, and

groundwater samples. White Oak Run and Dry Run were not inspected. A total of six groundwater monitoring wells were installed; MW-1 (shallow) and MW-1D (deep) are upgradient wells; MW-2, MW-3, MW-4, and MW-5 are downgradient wells.

The soil analytical data indicated that contamination was generally limited to the top two feet of soil at the Site and that volatile organic compound (VOC) concentrations were elevated in the drum storage area west of the facility, as well as within the septic system leach field. The groundwater analytical results also indicated that groundwater at the Site has been impacted by historical operations. MW2, which is directly downgradient of the facility, was most impacted. The groundwater contaminants included VOCs, pesticides, metals, formaldehyde, and semi-volatile organic compounds (SVOCs) which include amines, PAHs, and phenols.

2.6.7 June 1993 through May 1996 – POLREP #1 - #22, USEPA

The WVDEP requested the USEPA assist in mitigating the threat posed to human health and the environment by the deteriorating drums on site. In response, the USEPA Region III Technical Assistance Team led by On Scene Coordinator Marjorie Easton, provided oversight. These activities were documented in pollution reports (POLREP). POLREP numbers one through 22 were available for review in the WVDEP and USEPA project files.

A total of 1,980 full drums were located at the Site; of these, approximately 200 were reportedly leaking onto the ground. Thiokol-Specialty Chemicals, Inc. personnel conducted waste transfer and clean-up activities. It was also recorded that Phillips Petroleum retrieved 150 drums of material. A new drum pad was installed in order to provide a location for these activities (identified by NewChem, Inc. personnel during the site reconnaissance as the unused concrete pad northwest of the facility that contained standing water). According to the OSC, the new drum pad had been used and had become visibly stained by waste (POLREP # 20).

The last POLREP available for review (#22 dated May 3, 1996) recorded that approximately 400 drums remained on site. These drums were in mostly good condition. The drum storage area soils had reportedly not been stabilized and were visibly stained.

2.6.8 April 15, 1996 – Wheeler and Associates

Howard S. Wheeler of Wheeler and Associates, Inc., led a group of investors who formed NewChem, Inc. In a letter to the WVDEP stating their intent to purchase the Site, it was reported that the Site had been “sealed off from discharge to public waters on April 15, 1996,” thus eliminating the Outfall 001 discharge to White Oak Run.

2.6.9 March 1997 – Subsurface Soil Investigation, Smith Technology Corp.

A subsurface soil investigation was performed by Smith Technology Corp. for NewChem, Inc. The former emergency lagoon and a production area within the facility were investigated. The former emergency lagoon analytical scope was

limited to the herbicide products pendimethalin (Prowl) and acifluorefen (Blazer) and Toxicity Characteristics Leaching Procedure (TCLP) lead. According to a summary report, "Prowl" was detected in the former emergency lagoon subsurface soils; "Blazer" and TCLP lead were not detected. The former production area analytical scope was limited to VOCs, and SVOCs. VOCs and SVOCs were detected in the production area subsurface soils.

2.6.10 April 1997 – Groundwater Investigation, Smith Technology Corp.

A groundwater investigation was performed by Smith Technology Corp. for NewChem, Inc. The groundwater monitoring wells installed by DUNN Corporation in 1992 were sampled. The analytical scope was limited to Prowl, Blazer, VOCs, SVOCs, Metals, and Cyanide. According to a summary report, Prowl and Blazer were detected in the site groundwater monitoring wells; and chromium, lead, benzene, and 1,2-dichloroethane were detected at concentrations greater than the federal safe drinking water maximum contaminant levels (MCLs).

2.6.11 May 2002 – RCRA Administrative Consent Order

An Administrative Consent Order, Docket Number RCRA-03-2002-0010, was issued to NewChem, Inc. by the USEPA Region III pursuant to the Resource and Conservation Recovery Act in May 2002. A RCRA Facility Investigation (RFI) Work Plan was submitted by Civil and Environmental Consultants, Inc. (CEC) on behalf of NewChem, Inc. The RFI proposed installation of three additional groundwater monitoring wells and 20 soil borings for the collection of subsurface soil. According to NewChem, Inc., the additional monitoring wells were installed; however, it is unclear from the project files if the soil borings were collected and analyzed.

2.7 Areas of Potential Environmental Concern

Based on the previous investigations performed at the Site and the site reconnaissance performed, areas of potential environmental concern included the following:

- Production area (inside fence),
- Drum storage area which includes the entire area west of the fenced production area to the earthen berm,
- Area of distressed vegetation northeast of the facility also referred to as the former dump site or burn area,
- Former emergency release lagoon location,
- Former septic leach field,
- White Oak Run (former Outfall 001),
- Dry Run,
- Earthen berm along the Site's western edge,
- Seep identified downgradient (west) of the Site (this seep could not be located during subsequent site visits),
- Surface water ponds at the former quarry located downgradient of the Site, and
- Local public water supply groundwater systems within a four mile radius of the Site.

2.8 Potentially Responsible Parties

2.8.1 Beazer East, Inc. (formerly Koppers Company)

Beazer East, Inc. has been identified as a potentially responsible party (PRP) as they are the documented owner of the Site property from 1956 to 1966 (identified as Koppers Company in the tax records). Koppers Company originally developed the property for coal tar derivatives production. The location of the coal tar derivatives production facility is unknown though it is believed to be the same location as the current NewChem, Inc. production facility. Beazer East, Inc. acquired the Koppers Company in 1988.

2.8.2 Custom Chemicals

Custom Chemicals purchased the Site in 1966 and reportedly converted the former Koppers Company coal tar derivatives plant to specialty chemicals manufacturing. Company and contact information could not be ascertained from the project files or available records.

2.8.3 Antox, Inc.

Antox, Inc. purchased the Site in 1969 and reportedly operated at the Site until 1974. Antox, Inc. produced specialty chemicals that hindered phenol antioxidants. The company's co-founder and president was Dr. Hal. B. H. Cooper. The company changed its name to Chemanox Inc. in 1972. Company and contact information could not be ascertained from the project files or available records.

2.8.4 General Investors, Inc.

General Investors, Inc. purchased the Site in 1974. There are no records that the Site operated under the name of General Investors, Inc. Company and contact information could not be ascertained from the project files or available records. General Investors, Inc. sold the Site to Southwest Specialty Chemicals, Inc. in 1979.

2.8.5 Southwest Specialty Chemicals, Inc.

Southwest Specialty Chemicals, Inc. purchased the Site in 1979. Thiokol-Specialty Chemicals Division and Morton Thiokol, Inc. operated at the Site while ownership remained with Southwest Specialty Chemicals, Inc.

From 1972 through 1979, Mr. Gary L. Mossman was President and Cofounder of Southwest Specialty Chemical Company, Inc. and from 1979 through 1980, he was General Manager of Thiokol-Specialty Chemicals Division.

Additional information regarding Southwest Specialty Chemicals, Inc could not be ascertained from the project files or available records.

2.8.6 Alcoa, Inc. (formerly Thiokol-Specialty Chemicals Division, Inc.)

Thiokol-Specialty Chemicals Division operated at the Site from 1979 through 1982. The company was formally created as the Thiokol-Chemical Corporation in 1929. In 1982, the Morton Norwich Company merged with Thiokol to become Morton

Thiokol, Inc. Morton Thiokol, Inc. operated at the Site from 1982 through June 1984. In 1998, the corporate name changed from Thiokol Corporation to Cordant Technologies Inc. In 2000, Cordant Technologies became part of the newly formed Alcoa Industrial Components Group, a business of Alcoa, Inc.

2.8.7 Newell Specialty Chemicals, Inc.

The facility was purchased by Newell Specialty Chemicals, Inc. in June 1984. Newell Specialty Chemicals, Inc. operated at the Site until 1997. As discussed previously, Newell declared bankruptcy in 1996.

2.8.8 Deltech Polymers Corp. (NewChem, Inc.)

NewChem, Inc. (NewChem) purchased the Site in August 1997. As part of the purchase agreement, NewChem assumed all environmental liability for the Site. NewChem still operates at the Site as a chemical manufacturing facility. NewChem is an affiliated company of Deltech Resins Company, a chemical manufacturer based in Whippany, New Jersey.

2.8.9 Thiokol-Specialty Chemical Customers

The following companies are potentially responsible parties. They represent companies that were customers of Thiokol-Specialty Chemical Division or of Newell Specialty Chemicals, Inc. Thiokol-Specialty Chemical Division or Newell Specialty Chemicals, Inc. either accepted waste for disposal, used "off-spec" product in their manufacturing, or produced specialty chemicals for these companies:

- Phillips Petroleum
- Hercules Aerospace Company
- Albright & Wilson Americas
- Richman Chemical Inc.
- American Cyanamid Company
- Henkel Corporation
- Octane Boost Corporation

The following companies accepted waste from Newell Specialty Chemicals, Inc. for storage and/or transport:

- Wellsville Terminal Company
- S.H. Bell Company
- Barkhurst Construction Company

3.0 ENVIRONMENTAL SETTING

3.1 Soil Exposure Pathway

According to the *Soil Survey of Brooke, Hancock and Ohio Counties, West Virginia*, the Site cover is cut and fill land, mostly mixed soil material from excavated, graded, or filled areas. The northern and western edges of the Site may extend into a former gravel pit area. The local natural soil cover adjacent to the Site is the Lakin loamy sand, which are deep, excessively drained soils on terraces along the Ohio River. Permeability is rapid and moisture capacity is low allowing for rapid fate and transport of COPCs. Lakin soils are formed from alluvial and wind-blown materials, underlain by sand and gravel.

Individuals exposed to site soils would be limited to on-site workers and the occasional visitor or trespasser. Access to the production portion of the facility is restricted by a perimeter fence and gate. Access to the former drum storage area west of the facility is unrestricted. During the May 2006 site assessment, there were less than 100 workers at the facility. There are no on site residents. The closest nearby residential individual is greater than ¼ mile.

3.2 Groundwater Migration Pathway

Groundwater in the area is utilized for both public and industrial water supplies. The uppermost aquifer in the area is the alluvial aquifer which is the source tapped by wells in the Site area. The groundwater regime in the deeper units is controlled primarily by bedrock fractures and bedding plane openings.

According to the *Geology of the Ohio River Valley in West Virginia, Part I*, the Site lies within the Appalachian Plateaus Physiographic Province on the 500 year flood plain of the Ohio River. It is underlain by Cenozoic Quaternary alluvium consisting of sand, gravel, silt, and clay. Coarse sand and gravel are found in lower portions of the alluvium. Lenticular beds of clay and silt are interbedded with the sand and gravel deposits. As a result, fate and transport of hydrophilic COPCs in the alluvial aquifer would be expected to be rapid.

The Ohio River Valley is underlain by flat-lying bedrock covered with Wisconsin age alluvium. The main alluvial fill was deposited by the Ohio River when the Wisconsin continental glacier terminated in the northern part of the Ohio drainage basin. The glacier's melt waters discharged large amounts of glacial debris into the Ohio River. Below the alluvium is the Pennsylvanian Conemaugh Group, averaging 500 to 600 feet in thickness throughout the county. This group consists of cyclic sequences of red and gray shale, siltstone, and sandstone, with thin beds of limestone and coal. There are also thick red bed sequences. Locally, the sandstone is thin, due to the disappearance of some cyclothemic sequences. There are no records indicating the Pennsylvanian age formations are used for potable groundwater purposes in the Site area.

During the May 2006 site assessment activities, ground elevations at the Site were measured at each groundwater monitoring well from approximately 674 feet above mean sea level (msl) at the former quarry currently owned by Mountaineer Gaming to approximately 755 feet above msl at the NewChem facility. Groundwater was encountered at the Site at depths

ranging from 7.5 feet below the PVC riser of the well near the Ohio River to 80 feet below the PVC riser at the NewChem facility.

The slope of the groundwater table at the Site generally mimics the slope of the land surface. Groundwater measured at the Site showed an elevation change of approximately 65 feet in the groundwater table across the NewChem and Mountaineer Gaming properties, east to west, with the slope trending in a generally west/southwest direction towards the Ohio River. A simplified graph of the measured groundwater table is provided below as **Figure 4, Groundwater Table Following Bedrock Contour**:

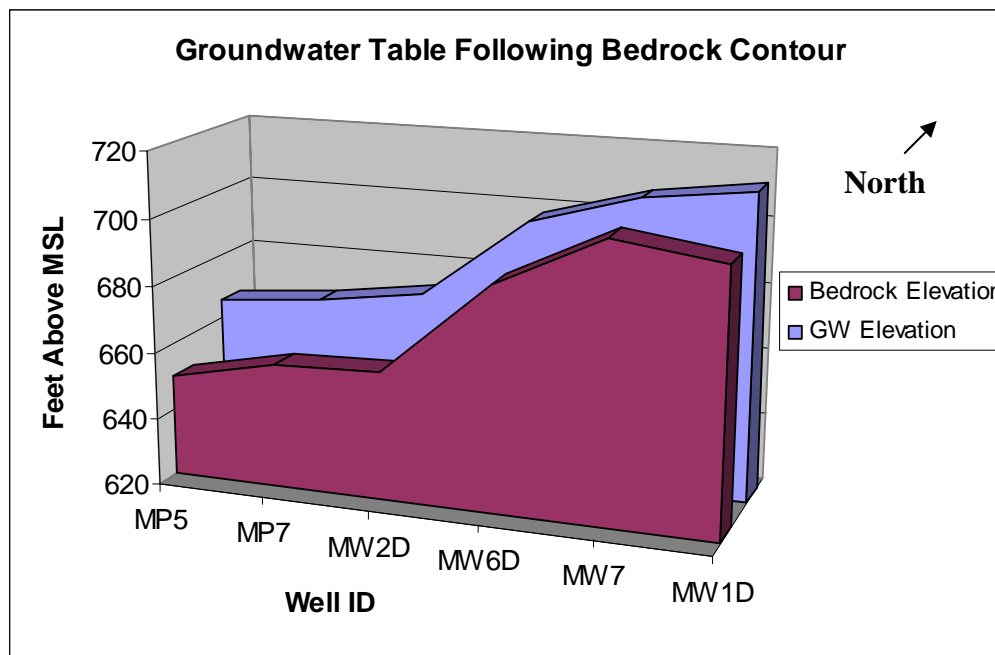


Figure 4. Groundwater Table Following Bedrock Contour.

As demonstrated in the graph above, the groundwater table at the Site not only mimics site topography but even more so, bedrock contour. Therefore, groundwater would be expected to flow from east/northeast (represented by MW1D) to west/southwest (represented by MP5). Please refer to **Figure 5, Groundwater Contour Map** for a potentiometric representation of groundwater flow at the Site. Based on Site topography and depth to water measurements during the May 2006 site assessment, the direction of groundwater flow would be to the west/southwest toward the Ohio River.

Based on the measured groundwater contour, it is unlikely potential contamination from the former asphalt plant would impact either the Site or Mountaineer Gaming property groundwater aquifers.

The Ohio River acts as a hydrologic barrier to potential groundwater users in the State of Ohio. As a result, there are only three public water systems located within the four-mile groundwater HRS TDL of the Site that utilize groundwater as a source of drinking water.

They are:

Public Drinking Water Systems – Groundwater Source

Water System Name	Population Served	Location Relative to Site
Mountaineer Park	1200	¾ mile northwest, downgradient
BOC Gases	63	½ mile west, downgradient
Fantasy's	100	<¼ east, upgradient

Source: USEPA Safe Drinking Water Information System (SDWIS)

Mountaineer Park utilizes groundwater as a community water system. A community water system is a water system that serves the same people year-round.

BOC Gases utilizes groundwater as a non-transient non-community drinking water supply which is a water system that serves the same people, but not year-round. BOC Gases reports results of a groundwater monitoring program semi-annually to the USEPA. Based upon the SDWIS, BOC Gases potable groundwater source has historically exceeded the safe drinking water MCL of five parts per billion (ppb) trichloroethene. The source of the trichloroethene contamination is unknown. However, based on the groundwater contour in the Site area and the distance from the Site, it is very unlikely contamination at the Site would impact the groundwater aquifer used by BOC Gases.

Fantasy's utilizes groundwater as a transient non-community water system which is a water system that does not consistently serve the same people.

According to the Site Inspection performed by NUS Corporation for the USEPA in 1987, there were an estimated 400 people drawing water from domestic groundwater wells drilled into the alluvial deposits within one mile of the Site. However, according to the United States Census Bureau year 2000 census (Census Custom CD for West Virginia, August 2002), only 87 people now reside within one radius mile of the Site. Zero people reside within the estimated groundwater discharge zone of 0.5 mile west/southwest of the Site. The 0.5 mile discharge zone is due to the aquifer discontinuity of the Ohio River which lies approximately 0.5 mile west/southwest of the Site (Hazard Ranking System, Final Rule, section 3.0.1.2.2). No residential properties were observed within the groundwater discharge zone during the May 2006 site assessment.

3.3 Surface Water

There are no expressions of surface water on the Site except for a small intermittent stream known as White Oak Run. White Oak Run is located northwest of the facility's production area and was the receiving water for the facility's former surface water discharge (former outfall 001). White Oak Run flows north/northwest for approximately 1,000 feet until it discharges into Dry Run. Dry Run flows southwest for approximately 3,000 feet where it discharges into the Ohio River. The Ohio River flows in a general southward direction from the Site. The Ohio River is categorized by the State of West Virginia as a source of public drinking water, recreational use (boating and swimming), and aquatic life uses. The Ohio River is currently under a fish consumption prohibition due to human health risk.

According to the USEPA SDWIS, there is one public water system located within the 15-mile surface water HRS TDL of the Site. It is:

Public Drinking Water Systems – Surface Water Source

Water System Name	Population Served	Location Relative to Site
Toronto City PWS (Ohio)	5676	Aprox. 14 mile, downstream

However, due to the significant dilution that would occur to any COPCs by the Ohio River, it is unlikely that there is a measurable impact to the municipal water source intake along the Ohio River downstream of the Site.

A second Thiokol-Specialty Chemicals Division CERCLIS Site surface water discharge, identified as “Run Off Trench,” discharged near the former drum storage area southwest toward a pond currently on Mountaineer Gaming property (see **Figure 2** on page 3). A 1984 West Virginia Department of Natural Resources Preliminary Assessment described the location as “Standing water, white in color, with a sheen. A runoff trench originates near this area and discharges to a downgradient pond identified as a ‘discharge pond’ on the adjacent property.” This trench is no longer evident at the Site.

3.4 Demographics

Population information was based on data obtained from the U.S. Census Bureau LandView® 5 version 1.0 Custom Census CD. The population information is based on the year 2000 census and is summarized as follows:

Radial Distance from Site	Estimated Population
4 miles	3,407
3 miles	1,050
2 miles	571
1 mile	87
0.75 mile	67
0.50 mile	8
0.25 mile	0

3.5 Climate

Climate information for Hancock County, West Virginia is available at the World Climate web-site (www.worldclimate.com). Temperatures in the summer months range from 79.0 to 82.6 degrees Fahrenheit and range from 34.7 to 39.2 degrees Fahrenheit in the winter months. The average rainfall is 37-inches a year. The average monthly rainfall ranges from 2.2-inches to 3.9-inches per month.

3.6 Sensitive Environments

Based on information obtained from the U.S. Fish and Wildlife Service (USFWS), National

Wetland Inventory (NWI) website, there are no known critical environments or endangered species within the Site area. However, the ponded surface water bodies west and downgradient of the Site, as well as some areas along Dry Run are identified on the NWI database. For a map of the inventoried wetlands please refer to pages 2 of **Appendix 1**.

4.0 CURRENT SITE INVESTIGATIONS

Under Task 2 of the approved Work Plan, TRIAD performed site investigation activities at the Thiokol-Specialty Chemical Div. CERCLIS Site on May 1 through May 4, 2006. During the sampling event, 26 soil/sediment and 25 surface water/groundwater samples were collected. The locations of these samples are depicted on **Figure 6, On-Site Sample Location Map** and **Figure 7, Off-Site Sample Location Map**.

The objective of the site investigation activities was to generate data of sufficient quality and quantity so that the following could be achieved:

- Preliminary Hazard Ranking System (HRS) site score can be calculated for the Site;
- Determine if contamination has migrated off site; and
- Provide recommendations to the WVDEP and USEPA as to whether further action is required at the Site.

4.1 Surface Soil Sampling

TRIAD collected 16 surface soil samples (0 - 6 inches below ground surface) from the following locations:

SAMPLE ID	CLP ID	LOCATION
SS1	C5000/MC5000	NewChem bermed soil area with stressed vegetation, west of drum storage area
SS2	C5001/MC5001	NewChem former septic leach field area
SS3	C5002/MC5002	NewChem former emergency release lagoon area
SS4	C5003/MC5003	NewChem drum storage area
SS5	C5004/MC5004	NewChem drum storage area
SS6	C5005/MC5005	NewChem former burn area
SS7	C5006/MC5006	NewChem former burn area
SS8	C5007/MC5007	Background Sample
SS9	C5008/MC5008	NewChem Process Area
SS10	C5009/MC5009	NewChem Process Area
SS11	C5010/MC5010	NewChem Process Area
SS12	C5011/MC5011	NewChem Process Area
SS13	C5012/MC5012	NewChem Process Area
SS14	C5013/MC5013	NewChem Process Area
SS15	C5014/MC5014	NewChem Process Area
SS16	C5015/MC5015	Field Duplicate of SS5 NewChem drum storage area

Yellow stained soil was observed along the northwest berm of the NewChem property (location of SS1). No other surface soil staining was observed though stressed vegetation

was observed in many areas within the NewChem property.

4.2 Subsurface Soil Sampling

TRIAD collected six subsurface soil samples (>2 feet below ground surface) from the following locations:

SAMPLE ID	CLP ID	LOCATION
SB1	C5023/MC5023	NewChem former emergency release lagoon area
SB2	C5024/MC5024	NewChem drum storage area
SB3	C5025/MC5025	NewChem drum storage area
SB4	C5026/MC5026	NewChem former burn area
SB5	C5027/MC5027	NewChem former septic leach field area
SB6	C5028/MC5028	Field Duplicate of SB3 NewChem drum storage area

Subsurface soil cores were collected and visibly inspected by TRIAD field personnel. No visible soil staining or distinctive yellow coloring was observed. Subsurface soil intervals were collected from a depth of 2 to 4 feet below the ground surface (bgs) with the exception of SB3 collected at the 2 to 8 feet bgs interval. Soil collected was observed to be primarily medium brown, coarse silty sand with small pebbles.

Bedrock was encountered at the Site at depths ranging from 39 to 45.5 feet bgs. A number of the borings were repeated due to refusals in attempt to encounter groundwater. Groundwater was not encountered at any of the borings before refusal.

4.3 Surface Water Sediment Sampling

TRIAD collected seven surface water sediment samples (surficial 0-2 inches below ground surface) from the following locations:

SAMPLE ID	CLP ID	LOCATION
SD1	C5016/MC5016	In area of former seep location, downgradient of drum storage area (no evidence of seep)
SD2	C5017/MC5017	Dry Run upstream of White Oak Run (former surface water discharge of NewChem)
SD3	C5018/MC5018	Dry Run downstream of White Oak Run (former surface water discharge of NewChem)
SD4	C5019/MC5019	White Oak Run in former surface water discharge of NewChem
SD5	C5020/MC5020	Mountaineer Gaming (former quarry) ponded surface water downgradient of NewChem
SD6	C5021/MC5021	Mountaineer Gaming (former quarry) ponded surface water downgradient of NewChem
SD7	C5022/MC5022	Field duplicate of SD1, former seep location

A seep identified in 1982 by the WVDEP during a site inspection was not visible to sampling personnel in 2006. Therefore, sediment sample (SD1) was collected in the vicinity of the previously identified seep location. For COC and HRS risk assessment purposes, the SD1 sample location data will be compared to surface soil risk-based concentrations as this best approximates the exposure route of SD1.

Former NewChem surface water discharge 001 discharged north of the facility into White Oak Run. This location was observed to be dry with no evidence of surface water discharge. Sediment sample SD4 was collected from this location. For COC and HRS risk assessment purposes, the SD4 sample location data will be compared to surface soil risk-based concentrations as this best approximates the exposure route of SD4.

Dry Run was observed to be in median flow condition with no visible turbidity. The Mountaineer Gaming property ponds appeared to support healthy vegetation as well as aquatic life and wildlife.

4.4 Surface Water Sampling

TRIAD collected six surface water samples from the following locations:

SAMPLE ID	CLP ID	LOCATION
SW2	C5016/MC5016	Dry Run upstream of White Oak Run (former surface water discharge of NewChem)
SW3	C5017/MC5017	Dry Run downstream of White Oak Run (former surface water discharge of NewChem)
SW4	C5018/MC5018	NewChem surface water impoundment of process water and storm water
SW5	C5019/MC5019	Mountaineer Gaming (former quarry) ponded surface water downgradient of NewChem
SW6	C5020/MC5020	Mountaineer Gaming (former quarry) ponded surface water downgradient of NewChem
SW7	C5021/MC5021	Field duplicate of NewChem surface water impoundment of process water and storm water

A seep identified in 1982 by the WVDEP during a site inspection was not visible to the sampling personnel in 2006. Therefore, a corresponding aqueous sample could not be collected due to lack of water.

Former NewChem surface water discharge 001 discharged north of the facility into White Oak Run. This location was observed to be dry with no evidence of surface water discharge.

Dry Run was observed to be in median flow condition with no visible turbidity. The Mountaineer Gaming property ponds appeared to support healthy vegetation as well as aquatic life and wildlife.

4.5 Groundwater Sampling by Direct-Push

Groundwater was not encountered in the direct-push boring attempts at the Site at depths ranging from 39 to 45.5 feet bgs.

4.6 Groundwater Monitoring Well Sample Collection

TRIAD collected 17 groundwater samples from monitoring wells at the following locations:

SAMPLE ID	CLP ID	LOCATION
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MW-1A	C5047/MC5047	NewChem upgradient well
MW-1D	C5048/MC5048	NewChem upgradient well
MW-2	C5049/MC5049	NewChem well drum storage area
MW-2D	C5050/MC5050	NewChem well drum storage area
MW-3AR	C5051/MC5051	NewChem well drum storage area
MW-4	C5052/MC5052	NewChem well drum storage area
MW-5A	C5053/MC5053	NewChem Process Area well
MW-7	C5055/MC5055	NewChem Process Area well
MW-8	C5056/MC5056	NewChem former emergency release lagoon area well
MW-MP1	C5038	Mountaineer Gaming well immediately downgradient of NewChem
MW-MP2	C5039/MC5039	Mountaineer Gaming well immediately downgradient of NewChem
MW-MP3	C5040/MC5040	Mountaineer Gaming well along White Oak Run and potentially downgradient of former asphalt plant location
MW-MP4	C5041/MC5041	Mountaineer Gaming well near confluence of Dry Run and Ohio River
MW-MP5	C5042/MC5042	Mountaineer Gaming well near southwest corner of former quarry
MW-MP6	C5043/MC5043	Mountaineer Gaming well immediately downgradient of NewChem
MW-MP7	C5044/MC5044	Mountaineer Gaming well immediately downgradient of NewChem
MW-MP8	C5045/MC5045	Mountaineer Gaming well immediately downgradient of NewChem

All groundwater monitoring wells were successfully collected with the exception of NewChem well MW6 due to structural damage. All wells successfully recharged within 24 hours of purging with the exception of Mountaineer Gaming well MP1. Due to the poor recharge of MP1, only sufficient sample volume for VOC and pesticide analysis could be collected. Groundwater collected from the monitoring wells ranged from clear to slightly turbid.

4.7 Groundwater Public Supply Well Sample Collection

TRIAD collected four groundwater public supply well samples from the following locations:

SAMPLE ID	CLP ID	LOCATION
PW2	C5060/MC5060	NewChem water well (non-potable)
PW3	C5061/MC5061	Fantasy's
PW4	C5062/MC5062	Mountaineer Gaming Resort
PW6	C5064/MC5064	Field duplicate of PW2 NewChem water well

According to Mr. Doug Ivori, NewChem, PW2 is not used for drinking water purposes; it is used as process water and as supply water to the facility's restrooms. Groundwater collected from the public supply wells was clear, colorless, and odorless with the exception of the NewChem non-potable well, PW2. PW2 was observed to be clear but slightly brown to orange in color with a distinct odor, such as a high iron and/or sulfur content.

4.8 Quality Control Samples

TRIAD also procured quality control (QC) samples during the investigation to assess sampling precision, effectiveness of decontamination procedures, sample temperature preservation, any evidence of sample cross-contamination, and matrix effect of each media. The following QC samples were obtained:

- Field duplicates
- Trip blanks
- Temperature blanks
- Matrix spike and matrix spike duplicate of organics (MS/MSD)
- Matrix spike and matrix duplicate of inorganics (MS/DUP)
- Split samples collected by NewChem's consultant, CEC

The QC samples met the data quality objectives (DQO's) of the site specific *Sampling and Analysis Plan*.

5.0 ANALYTICAL RESULTS

5.1 Analytical Scope

Data obtained during SIR activities may be used for a range of purposes by USEPA and the WVDEP. Therefore, based on consultation with the USEPA Region III Site Assessment Officer, data collected were analyzed for:

- Base, Neutral, and Acid (BNA) Semi-Volatile Organic Compounds (SVOCs) including tentatively identified compounds (TICs)
- Volatile Organic Compounds (VOCs) including TICs
- Pesticides
- Metals
- Cyanide
- Herbicides (a non-routine chemical analytical request)
- Formaldehyde (a non-routine chemical analytical request)
- Acifluorfen and Pendimethalin (a non-routine chemical analytical request)

5.2 Analytical Procedures

It was recommended and approved that the laboratory selection and analysis be managed by the USEPA Region 3 client services team. The BNA, VOC, pesticides, metals, and cyanide fractions were analyzed and reported via the USEPA Routine Analytical Services (RAS) Contract laboratory Program (CLP) current Statement of Work (SOW). The herbicides, formaldehyde, acifluorfen and pendimethalin fractions were to be analyzed and reported via the USEPA Delivery of Analytical Services (DAS) commercial lab procurement program.

Due to the lack of a DAS laboratory assignment by the USEPA client services team, samples collected during the May 2006 site assessment were exceeding technical holding times. It was decided in consultation with Pam Hayes, WVDEP Project Manager; James Hargett,

USEPA Project Manager; and William “Bill” Wentworth, USEPA RCRA Manager that the DAS request would be cancelled.

It was further decided that the data generated from the split samples collected by NewChem’s consultant, CEC, would be utilized. A table summarizing these samples is provided below:

Sample ID	Location	Analytical Scope
SS1	NewChem bermed soil area with stressed vegetation, west of drum storage area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, Acifluorfen and Pendimethalin
SS5	NewChem drum storage area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, Acifluorfen and Pendimethalin
SS11	NewChem process area	BNA, Pest, Herb, Metals, and Cyanide
SS13	NewChem process area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, Acifluorfen and Pendimethalin
SD1	In area of former seep location, downgradient of drum storage area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, Acifluorfen and Pendimethalin
SD4	White Oak Run in former surface water discharge of NewChem	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, Acifluorfen and Pendimethalin
SB3	NewChem drum storage area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, VOC, Acifluorfen and Pendimethalin
SB5	NewChem former septic leach field area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, VOC, Acifluorfen and Pendimethalin
MW-1D	NewChem upgradient well	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, VOC, Acifluorfen and Pendimethalin
MW-2D	NewChem well drum storage area	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, VOC, Acifluorfen and Pendimethalin
MW-7	NewChem process area well	BNA, Pest, Herb, Metals, Cyanide, and VOC
PW2	NewChem water well (non-potable)	BNA, Pest, Herb, Metals, Cyanide, and VOC
SW4	NewChem surface water impoundment of process water and storm water	BNA, Pest, Herb, Metals, Cyanide, Formaldehyde, VOC, Acifluorfen and Pendimethalin

The split samples were analyzed by commercial laboratory Pace Analytical located at 5203 Triangle Lane, Export, Pennsylvania, (724) 733-1161.

5.3 Data Validation Process

As per the approved Work Plan and as authorized by the USEPA Region III, Site Assessment Manager, the analytical results underwent data validation. The CLP data was validated by USEPA Region 3 according to the following data validation levels *Understanding Region III Data Validation* (February 25, 2000):

- Organic review procedures M-3
- Inorganic review procedures IM-2

A copy of the data validated by USEPA is provided in **Appendix 2, CLP Analytical Results**.

Based on the DQOs for this project, the split sample analytical data generated by Pace Analytical was validated by TRIAD ENGINEERING, INC. TRIAD's Senior Chemist performed the data validation review in accordance with the *National Functional Guidelines for Organic Data Review* (USEPA, February 1994), *National Functional Guidelines for Inorganic Data Review* (USEPA, February 1994), and the *Guidance on Environmental Data Verification and Data Validation* (USEPA, November 2002). A copy of the split sampling analytical data validation package is provided in **Appendix 3, Split Sampling Analytical Results**. Due to size, Appendix 3 is presented on a CD-ROM. The results are presented as a PDF file format for ease of review and printing.

6.0 SELECTION OF CONTAMINANTS OF CONCERN

Based on the COPCs evaluated at the Site, TRIAD has reviewed the laboratory analytical data for the most recent SIR investigations to identify and select contaminants of concern (COCs) for the Site. A COPC is defined as any individual compound or analyte that was analyzed under the most recent site assessment activities. COCs were selected based on criteria in the USEPA *Risk Assessment Guidance for Superfund (RAGS), Volume 1, Human Health Evaluation Manual (Part A), Interim Final*. To be selected as a COC, a compound or analyte had to be:

- detected at least once at a concentration greater than the contract required detection limit (CRDL) and
- detected at a concentration greater than the applicable action level concentration to which it is compared.

In addition, soil inorganic results had to be detected at a concentration greater than their published maximum background concentration for soil in West Virginia, as published in the *West Virginia VRRDA Guidance Manual (version 2.1)*. BNA and VOC TICs were not considered in the COC evaluation due to their identification being tentative and the concentrations reported are estimated. However, their presence in the site media is discussed further in section 6.8.

The SIR laboratory analytical data were compared by media to the following USEPA and WVDEP environmental criteria and standards to select COCs:

Surface and Subsurface Soil:

- USEPA Region III, *Industrial Soil Ingestion Risk Based Concentrations* (RBCs), April 2006.
- VOCs were compared to USEPA Region III, *DAF1 SSLs for Migration to Groundwater* RBCs, April 2006.

- USEPA OSW Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (OSWER Directive #9355.4-12 August 1994).
- West Virginia *Voluntary Remediation and Redevelopment Act Guidance Manual* (Version 2.1) Table 2-3 *Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas*.
- Pendimethalin (Prowl) was compared to *ATSDR Adult Comparison Value, Reference Dose Media Evaluation Guide PUBLIC HEALTH ASSESSMENT, CENEX SUPPLY AND MARKETING, INCORPORATED (a/k/a WESTERN FARMERS, INCORPORATED), QUINCY, GRANT COUNTY, WASHINGTON*.

Sediment:

- USEPA *ECO Update*, Ecotox Thresholds, January 1996, supplement to USEPA *Risk Assessment Guidance for Superfund (RAGS), Volume II, Environmental Evaluation Manual*.
- USEPA Region 3 *Freshwater Sediment Screening Benchmarks*, August 2006. (<http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fwsed/screenbench.htm>).
- Pendimethalin (Prowl) was compared to *ATSDR Adult Comparison Value, Reference Dose Media Evaluation Guide PUBLIC HEALTH ASSESSMENT, CENEX SUPPLY AND MARKETING, INCORPORATED (a/k/a WESTERN FARMERS, INCORPORATED), QUINCY, GRANT COUNTY, WASHINGTON*.

Surface Water:

- USEPA *National Recommended Water Quality Criteria* (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.
- USEPA Region 3 Risk Assessment *Freshwater Screening Benchmarks* (<http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/screenbench.htm>).

Groundwater:

- USEPA Region III, *Tap Water RBCs*, April 2006.
- USEPA *National Primary Drinking Water Standards*, Winter 2004.
- USEPA *National Secondary Drinking Water Regulations*, Winter 2004.

Based on our evaluation, the occurrence and distribution of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison purposes are summarized relative to environmental media and area of concern in **Tables 1 through 7**. The frequency of detection and comparison of these data to the applicable environmental action levels and criteria are presented in the following subsections.

6.1 Surface Soil Sample Results

Arsenic, mercury, and benzo(a)pyrene were detected at concentrations greater than their respective action levels in surface soil. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 1A-1C, Occurrence, Distribution and Selection of COCs – Surface Soil**. In addition, the following table summarizes the selected COCs in surface soil by area of concern:

Area of Concern	COCs in Surface Soil (mg/Kg)		
	Arsenic	Mercury	Benzo(a)pyrene
NewChem Process Area	17.5	0.59	0.49; 0.80
Bermed soil area west of facility	-	-	0.46

6.2 Sediment as Surface Soil Sample Results

As discussed previously, sample locations SD1, SD4, and SD7 (field duplicate of SD1) had no expressions of surface water and were therefore compared to surface soil action levels as that best represented route of potential exposure. Mercury was the only COPC detected at concentrations greater than its respective action level in surface soil. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 2A-2C, Occurrence, Distribution and Selection of COCs – Sediment as Surface Soil**. In addition, the following table summarizes the selected COCs by area of concern:

Area of Concern	COCs in Sediment as Surface Soil (mg/Kg)
	Mercury
White Oak Run in location of former surface water discharge	1.4

6.3 Subsurface Soil Sample Results

Methyl acetate was the only COPC detected at concentrations greater than its respective action level in subsurface soil. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 3A-3D, Occurrence, Distribution and Selection of COCs – Subsurface Soil**. In addition, the following table summarizes the selected COCs by area of concern:

Area of Concern	COCs in Subsurface Soil (mg/Kg)
	Methyl acetate
NewChem former drum storage area	2.4

6.4 Surface Water Sediment Sample Results

Iron, manganese, nickel, anthracene, pyrene, benzo(g,h,i)perylene, and carbon disulfide were detected at concentrations greater than their respective action levels in surface water sediment. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 4A-4C, Occurrence, Distribution and Selection of COCs – Surface Water Sediment**. In addition, the following table summarizes the selected COCs in surface water sediment by area of concern:

Area of Concern	COCs in Surface Water Sediment (mg/Kg)						
	Iron	Manganese	Nickel	Anthracene	Pyrene	Benzo(g,h,i) perylene	Carbon Disulfide
Dry Run upstream	38700	1170	23.0	0.2	1.3	0.2	-
Dry Run downstream	42200	1210	25.8	-	-	-	0.026
Ponds	21200; 28100	-	-	-	-	-	-

6.5 Surface Water Sample Results

Aluminum, arsenic, barium, calcium, copper, iron, lead, manganese, and sodium were detected at concentrations greater than their respective action levels in surface water. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 5A-5D, Occurrence, Distribution and Selection of COCs – Surface Water**. In addition, the following table summarizes the selected COCs in surface water by area of concern:

COCs in Surface Water (ug/L)	Area of Concern			
	Dry Run upstream	Dry Run downstream	NewChem Process Water	Ponds
Aluminum	-	-	-	2800; 945
Arsenic	-	-	-	4.8
Barium	39.3	37.7	95.7	163; 109
Calcium	-	-	127000	-
Copper	-	-	24.8	16.3
Iron	-	-	-	8440; 2470
Lead	-	-	-	10.4; 3.2
Manganese	-	-	-	523; 172
Sodium	-	-	-	1010000

6.6 Public Supply Well Results

There were no COCs identified in the public supply well samples. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 6A-6D, Occurrence, Distribution and Selection of COCs – Public Supply Wells**.

6.7 Groundwater Monitoring Well Results

Aluminum, arsenic, iron, lead, manganese, thallium, vanadium, chloroform, benzene, and trichloroethene were detected at concentrations greater than their respective action levels in groundwater. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 7A-7D, Occurrence, Distribution and Selection of COCs – Groundwater Monitoring Wells**. In addition, the following table summarizes the selected

COCs in groundwater monitoring wells by area of concern:

COCs in Groundwater (ug/L)	Area of Concern				
	Upgradient wells	NewChem Process Area	NewChem former drum storage	Former Lagoon	Mountaineer Gaming Property
Aluminum	18100	5470	22500	2490	28500
Arsenic	19.7	15	16.4	48.2	61.2
Iron	46300	20900	53000	308000	207000
Lead	21.7	15.6	25.3	-	154
Manganese	868	3230	5400	-	7960
Thallium	-	-	-	10.5	-
Vanadium	-	-	41.3	-	122
Chloroform	5.2	-	-	-	-
Benzene	-	4.1	-	-	-
Trichloroethene	-	-	12	-	31

Aluminum, iron, and manganese are inorganics regulated as USEPA National Secondary Drinking Water Regulations, which are “non-enforceable Federal guidelines regarding cosmetic effects (such as tooth or skin discoloration) or aesthetic effects (such as taste, odor, or color).” Therefore, even though aluminum, iron, and manganese exceeded the action level concentrations, they are non-enforceable and would not appear to pose an actual human health risk.

When compared to USEPA safe drinking water maximum contaminant levels (MCLs), arsenic, lead, thallium, and trichloroethene (TCE) exceed the published MCL concentration. There is no MCL for vanadium. Chloroform and benzene do not exceed their published MCL concentrations.

6.8 Tentatively Identified Compounds (TICs)

TIC analysis is a tool that can identify compounds that might otherwise be missed at a site. TICs are analyzed for using gas chromatography-mass spectral analysis (GC-MS). A statistically good match between the GC-MS computer library and a suspect compound along with the technical opinion of the analyst results in a TIC identification. This does not ensure absolute identity of the compound or its concentration. At the Thiokol-Specialty Chemicals Division CERCLIS Site, TICs were only available with the BNA and VOC analysis.

A review of the TIC reports provided by the USEPA (presented in **Appendix 2** along with the CLP results) revealed a number of unknowns that could not be identified. However, a number of TICs were identified at significant concentrations and in more than one sample. These TICs were predominantly phenolics. A few of the TICs are summarized in the following table by media and area of concern. They were selected based on greatest concentration and their presence at more than one location:

TICs in Groundwater (ug/L)	Area of Concern
----------------------------	-----------------

	Upgradient well (MW1D)	NewChem Process Area (MW7)
4,4'-Ethylenebis (2,6-di-tert-butylphenol)	15	66
2-(1,1-dimethylethyl)-4-methyl-Phenol	-	250

TICs in Soil (mg/Kg)	Area of Concern				
	NewChem Process Area (SS14)	Former Burn Area (SS7)	NewChem Former Drum Storage (SS1, SS4, SB3, SB6)	Former Lagoon (SS3)	White Oak Run in location of former surface water discharge (SD4)
4,4'-Ethylenebis (2,6-di-tert-butylphenol)	130	2.9	6.0; 8.2; 2.0; 2.2	-	17
2,2'-Methylenebis [6-(1,1-dimethylethyl)-4-methyl-phenol]	-	-	17; 14; 28; 47	24	49

2,2'-Methylenebis[6-(1,1-dimethylethyl)-4-methyl-phenol] is an antioxidant more commonly known as "Santowhite PC" (Monsanto Company). According to the USEPA chemical database, Santowhite PC is toxic to aquatic life (rainbow trout) at a nominal concentration of 0.58 mg/L and does not readily biodegrade. Santowhite PC was identified as a TIC in the former surface water discharge for the Site (White Oak Run) as well as soils in the former lagoon and drum storage areas. The White Oak Run discharge location has historically been documented as an area of contamination (see sections 2.5.1, 2.5.3, and 2.6.1). Another phenolic TIC; 2,4-Bis(1-methyl-1-phenylethyl)-phenol; was detected in Dry Run sediment downstream of the Site at an estimated concentration of 2.5 mg/Kg. Phenolics were not detected in the sediments upstream of Dry Run or in the surface waters tested.

Chemical information of the remaining TICs could not be ascertained.

6.9 Verification of the Conceptual Site Model

Human health potentially complete exposure pathways were identified for incidental ingestion, dermal contact, and inhalations of particulates associated with COCs in soil by industrial workers and/or future construction workers. The inhalation of volatile emissions, both outdoor and indoor, due to the presence of benzene and TCE in the groundwater is also a complete exposure pathway. The human health groundwater exposure pathway was incomplete due to groundwater not being extracted from the Site. Downgradient public drinking water systems extract groundwater for human consumption; however, there were no COCs identified resulting in an incomplete exposure pathway.

Based on the Mountaineer Gaming property's potential development for recreational use, human health potentially complete exposure pathways may exist for incidental ingestion, dermal contact, and fish consumption with surface water contaminants by recreational visitors and/or anglers via a surface runoff and/or groundwater to surface water migration pathway.

A potentially complete ecological exposure pathway was identified for terrestrial and/or semi-aquatic life potentially exposed to site-related contaminants in soil as well as COCs migrating from surface runoff and groundwater to surface water pathways. A potentially complete ecological exposure pathway was identified for aquatic life potentially exposed to site-related contaminants in surface water.

A visual representation of each conceptual site model is presented as **Figure 8, Human Health Conceptual Site Model** and as **Figure 9, Ecological Conceptual Site Model**.

7.0 HAZARD RANKING SYSTEM SCORE

TRIAD developed a preliminary Hazard Ranking System (HRS) site score following USEPA guidance documents. **The calculated preliminary HRS site score is 50.22.** The HRS model output is included in **Appendix 4, 2006 HRS Site Score Package**.

7.1 Observed Release

Substances that meet the criteria for an "observed release," according to its respective media and location were entered into the USEPA HRS QuickScore version 2.3 computer model.

An HRS observed release is established when a sample concentration is three times or greater than that of the background concentration. In cases of the background concentration being non-detect or not measured, the concentration of the substance must be greater than the contract required detection limit (CRDL) to qualify as an observed release. The COPCs which met the criteria for a HRS observed release are presented in **Tables 1 through 7**.

It is important to note the QuickScore computer model does not account for the concentration of the substance, only whether or not it is observed. Therefore, substances detected at de minimis concentrations will carry the same calculated weight as if they were detected above applicable action level concentrations. This may result in an overestimation of actual risk.

7.2 Source of Contamination

The source of contamination assigned to the Thiokol-Specialty Chemicals Division CERCLIS HRS site score is negligent hazardous waste storage activities. As discussed previously, observed releases of drummed liquid waste has historically occurred at the Site. These drums are no longer present; however, potential contamination to site soils and groundwater from historical releases may exist.

7.3 Hazardous Waste Quantity (HWQ)

Hazardous waste quantities at the Site were estimated based on *The Revised HRS: Evaluating Sites After Waste Removal* (USEPA 9345.1-03FS, October 1991) guidance document.

Requirements for considering removal actions in HRS scoring are (1) the removal action must physically remove waste from the site, (2) the removal action must have occurred prior to the development of the *Sampling and Analysis Plan*, and (3) the removed waste must be disposed or destroyed at a facility permitted under RCRA or TSCA or by the NRC. It was determined the waste removal conducted by NewChem prior to this SIR was a “qualifying removal.”

Based on this information, the HWQ for the migration pathways (groundwater, surface water overland flow, and surface water to groundwater) was determined to be 100. The soil pathway HWQ was determined to be 10.

7.4 Pathway Scores

The overall HRS site score is calculated using the USEPA QuickScore computer model which evaluates four individual potential contaminant migration pathways. The individual migration pathway scores at the Site are as follows:

Groundwater migration pathway score: (100.00)

Surface water migration pathway score: (8.65)

Soil Exposure pathway score: (3.60)

Air Migration pathway score: (0.00)

Based on these four pathway scores, the QuickScore computer model calculated an overall HRS site score of 50.22. TRIAD prepared the model to reflect current site conditions and the laboratory analytical data obtained during the 2006 SIR Characterization field investigations. The QuickScore model indicates the groundwater migration pathway is the critical pathway of concern at the Site.

7.4.1 Groundwater Migration Pathway

The groundwater migration pathway evaluates threats resulting from releases or potential releases of hazardous substances to aquifers. A groundwater migration score is calculated for each aquifer that underlies sources at the Site. The highest groundwater migration score then becomes the assigned score for the groundwater migration pathway. The groundwater migration pathway score for the Site is 100.00.

The groundwater migration pathway score of 100.00 is due to the HRS observed release in the public supply wells of lead, and the potential release to 1200 individuals served by public drinking water wells on Mountaineer Gaming Resort property. The “distance-weighted population value” assigned to the potential drinking water targets was 523 (*HRS table 3-12*). The concentration of lead was measured at the Mountaineer Gaming Resort public supply well (PW4) to be less than the action level concentration (**Table 6**). In order to be conservative, lead was included as an observed release in the HRS groundwater migration pathway score due to its detection in PW4 even though the concentration is below the CRDL. Therefore, the groundwater pathway score is likely an overestimation of the risk.

Aluminum, arsenic, manganese, thallium, vanadium, chloroform, benzene, and TCE

were not detected above the CRDL in the Mountaineer Gaming Resort public supply well. Iron and lead were detected below the action level concentration in the Mountaineer Gaming Resort public supply well.

7.4.2 Surface Water Migration Pathway

The surface water migration pathway is a function of two individual migration components:

- Surface water overland/flood migration component
- Groundwater to surface water migration component

Both of these migration components are scored independently by the QuickScore computer model. The higher of either score then becomes the assigned score for the surface water migration pathway. These two migration components themselves are a function of three individual target threats:

- Drinking water target threat
- Human food chain target threat
- Environmental target threat

The target threats are also scored independently. The sum of the three individual target threat scores then becomes the score for the migration component. The surface water overland/flood migration component and target threat scores are summarized as follows:

Surface water overland/flood migration component: (1.66)

- Drinking water target threat: (0.33)
- Human food chain target threat: (1.33)
- Environmental target threat: (0.0)

The groundwater to surface water migration component and target threat scores are summarized as follows:

Groundwater to surface water migration component: (8.65)

- Drinking water target threat: (0.56)
- Human food chain target threat: (6.52)
- Environmental target threat: (1.57)

7.4.3 Soil Exposure Pathway

The soil exposure pathway is a function of two direct exposure components:

- Resident population threat:
- Nearby population threat:

These two direct exposure components are based on three factor categories:

- Likelihood of Exposure
- Waste Characteristics
- Targets

7.4.4 Air Exposure Pathway

The air exposure pathway was not evaluated.

7.5 1997 HRS (USEPA)

The 1997 preliminary HRS site score calculated by the USEPA was 52.38. The site score was based upon an observed release of contaminants to groundwater and surface water at the Site and the potential impact to drinking water targets, specifically domestic wells and surface water intakes, within the appropriate target distance limits (TDL) of the Site. The 1997 preliminary HRS site score, similar to the 2006 preliminary HRS site score, was driven by potential risk to drinking water targets.

8.0 SUMMARY AND RECOMMENDATIONS

The Thiokol-Specialty Chemical Division CERCLIS Site is located in Hancock County, West Virginia approximately 3.5 miles southwest of Newell, West Virginia and is adjacent to State Route 2. The facility is now operated by NewChem, Inc., a subsidiary of Deltech Resins Company.

The Thiokol-Specialty Chemical Division CERCLIS Site has been operating as a specialty organic chemical manufacturing facility since 1956 under numerous owners. The Site also has a long history of RCRA violations including solid waste handling, disposal, and storage violations. The facility is currently under a RCRA Administrative Consent Order. The USEPA and WVDEP, OER determined an SIR was warranted to assess potential risk associated with the Site and to determine whether the Site should undergo further investigation under CERCLA.

A calculated preliminary HRS site score of 50.22 for the Thiokol-Specialty Chemical Division CERCLIS Site supports the 1997 USEPA calculated a preliminary HRS site score of 52.38. Both HRS site scores were calculated based upon an observed release of contaminants to groundwater and the potential impact to drinking water targets within the appropriate TDL of the Site.

Based on these SIR activities, TRIAD concludes the following:

- Contamination to site soils and groundwater from historical releases exist.
- Groundwater flow at the Site is west/southwest toward the Ohio River.
- Groundwater at the Mountaineer Gaming adjacent property, west of the Site, is contaminated with TCE and inorganics above the RBC for tap water.
- Dry Run sediments downstream of the Site are contaminated with phenolic compounds.
- The public groundwater supply systems within the HRS TDL are not impacted by the Site.

Based on these SIR activities, TRIAD recommends the following for consideration:

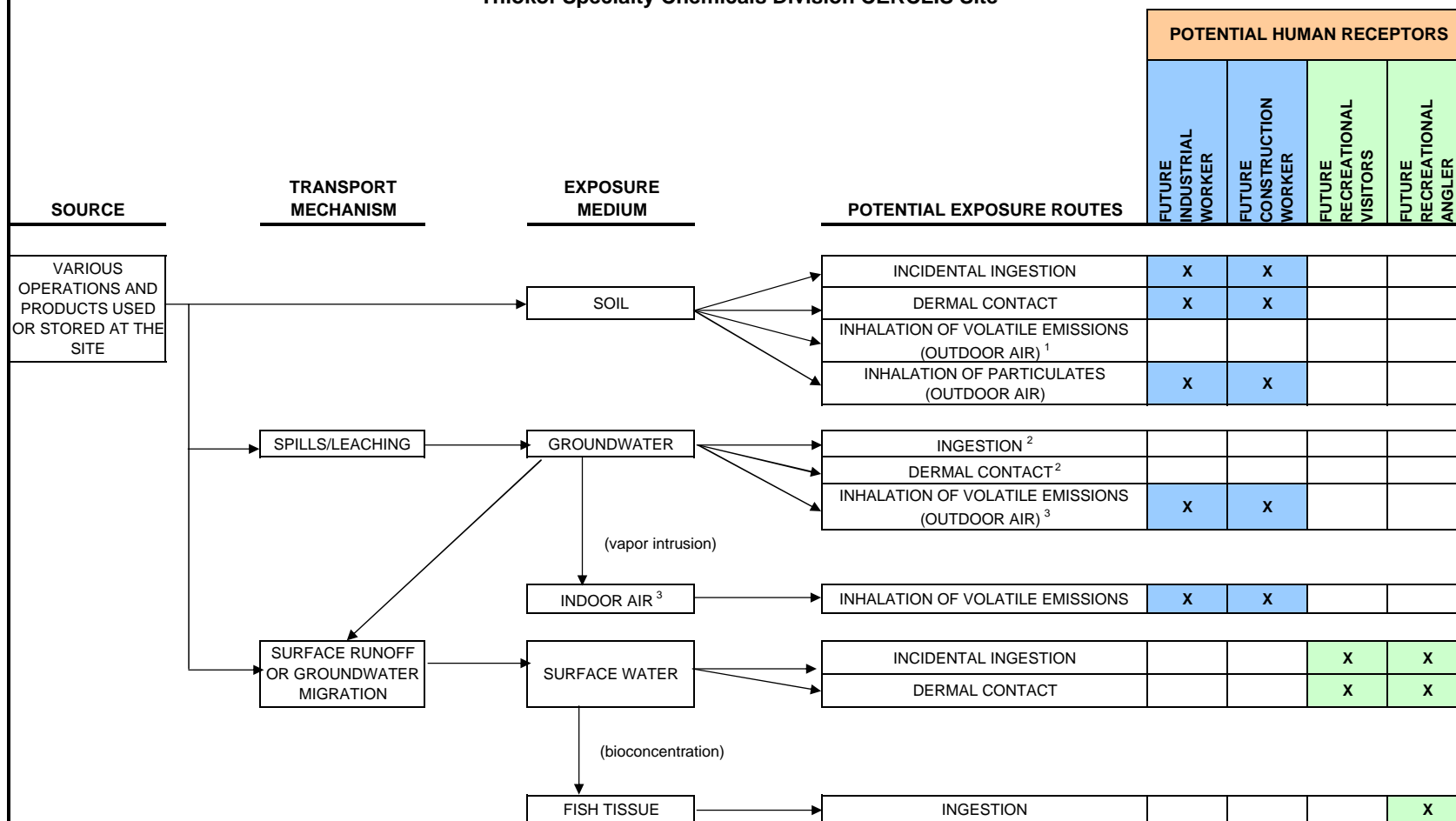
- A human health and ecological risk assessment be performed in order to determine if removal activities have been adequate. It is our understanding USEPA Region III is performing a risk assessment as part of the RCRA RFI Consent Order. It is

recommended the WVDEP, OER obtain a copy of the risk assessment to supplement this SIR Report.

- An ecological assessment of Dry Run in order to determine if off site migration of phenolics is impacting the health of the stream.
- NewChem well MW6, which was damaged at the time of the May 2006 site assessment, be repaired or reinstalled.
- Groundwater monitoring continue at the Site, as well as the Mountaineer Gaming property, in order to monitor if natural attenuation is occurring.
- Groundwater use restrictions be deeded at the Site Property as well as the adjacent Mountaineer Gaming property. It is recommended Mountaineer Gaming subparcel only the area impacted by groundwater contamination for deed restriction purposes.
- Land use of the Site Property be deed restricted to non-residential.

FIGURES

FIGURE 8
HUMAN HEALTH CONCEPTUAL SITE MODEL
Thiokol-Specialty Chemicals Division CERCLIS Site



Notes:

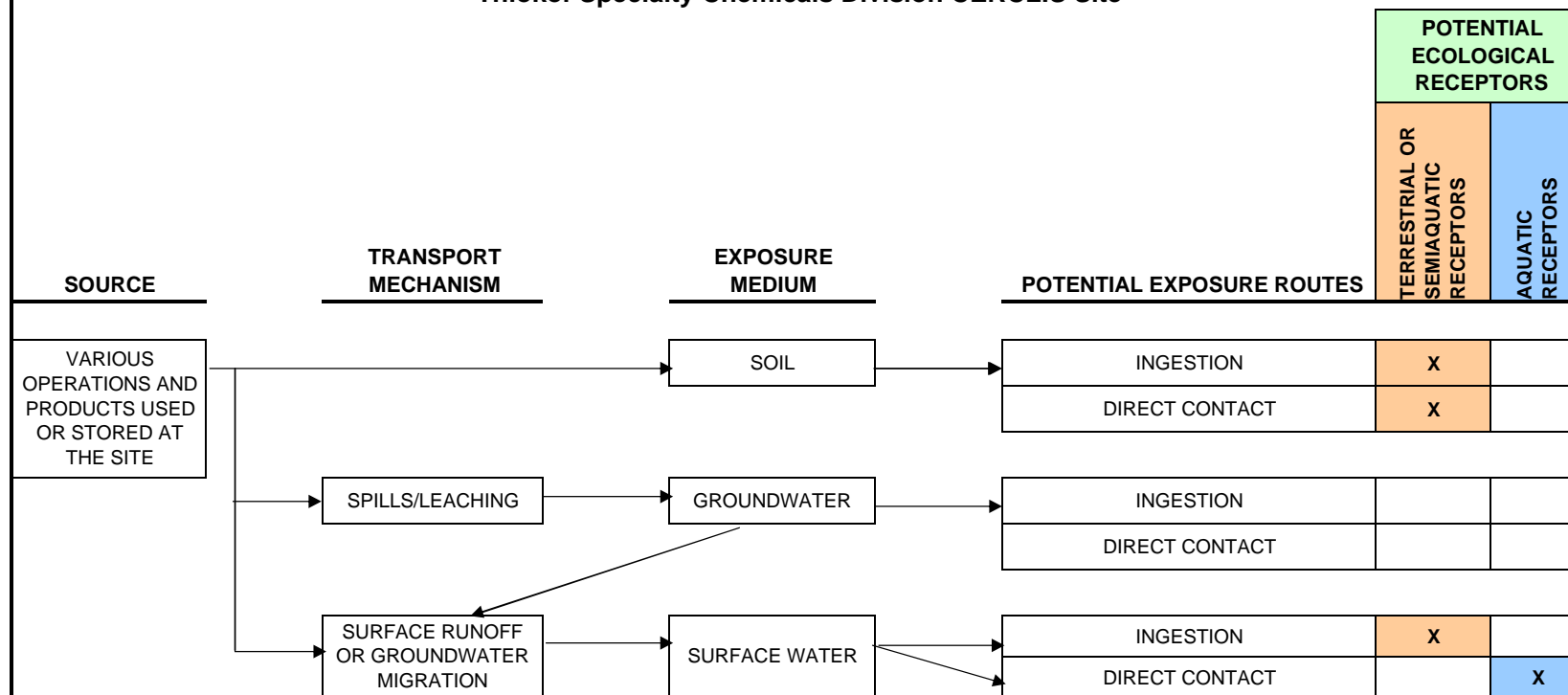
X - Indicates a potentially complete exposure pathway.

¹ The soil to outdoor air inhalation is incomplete because no volatile COCs were identified in soil

² The groundwater ingestion and dermal contact pathway is incomplete because groundwater is not extracted from the site for use

³ The vapor intrusion pathway and groundwater to outdoor air inhalation is complete because volatile COCs were identified in groundwater

FIGURE 9
ECOLOGICAL CONCEPTUAL SITE MODEL
Thiokol-Specialty Chemicals Division CERCLIS Site



Notes:

X - Indicates a potentially complete exposure pathway.

TABLES

Table 1A. Occurrence, Distribution and Selection of COC's Surface Soil (<2 feet bgs) Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																									
COPC	CRDL	Concentration (mg/Kg)																Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12	SS13	SS14	SS15	SS16 (FD of SS5)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Inorganics																									
Aluminum	20	6740	5940	8120	10600	13700	7700	8480	9600	7910	14000	14800	7810	27800	15800	22900	13600	15	16	5940	27800	NA ¹	NO	9600	NO
Antimony	6	0.83 B	0.98 B	0.84 B	1.2 B	1.2 B	0.61 B	0.75 B	0.56 B	1.1 B	1.4 B	2.8 B	0.9 B	12.6	2.5 B	4.4	1.8 B	2	16	4.4	12.6	409 ¹	NO	0.56 B	NO
Arsenic	1	8.4	10.8	8.4	8.3	6.2	6.3	7.1	8.1	17.5	4.6	7.2	7.8	2.4	6.8	3	9.5	15	16	2.4	17.5	13 ⁴	YES	8.1	NO
Barium	20	73.6	55.9	106	180	122	68.3	67	93.6	50.6	180	207	93.4	450	671	342	97.8	15	16	50.6	671	204000 ¹	NO	93.6	YES
Beryllium	0.5	0.82	0.31	0.95	1.5	1.2	0.71	0.71	0.61	0.44	2.2	1.9	0.8	7.2	2.1	4.8	0.8	15	16	0.31	7.2	2040 ¹	NO	0.61	YES
Cadmium	0.5	0.73	0.31 B	0.76	0.69	5.6	0.32	0.24	0.65	0.53	2	7.5	1.2	2.4	4	3.8	4.4	14	16	0.24	7.5	511 ¹	NO	0.65	YES
Calcium	500	16200	1710	13500	20900	160000	2770	2580	3670	883	181000	65800	19400	197000	76800	144000	161000	15	16	883	197000	NA ²	NO	3670	YES
Chromium	1	14.1	8.5	13.4	11.9	325	20.8	18.7	17.6	19.8	56	307	24.2	51	72.1	40.7	366	15	16	8.5	366	1530000 ¹	NO	17.6	YES
Cobalt	5	4.4	4.1	10.9	155	46.4	7.7	6.3	10.5	5.1	8.4	11	6.4	18.9	20.6	38.5	96.7	15	16	4.1	155	NA ¹	NO	10.5	YES
Copper	2.5	20.1	14.7	18.7	18.3	29.1	19.2	23.9	19.9	36.1	43.7	99.9	22	120	149	63.1	33.6	15	16	14.7	149	40900 ¹	NO	19.9	YES
Iron	10	22100	20500	23300	19600	116000	25100	21000	35100	22400	20100	50600	22700	12600	50300	25300	80100	15	16	12600	116000	307000 ¹	NO	35100	YES
Lead	1	19.7	20.1	19.7	20.3	64.6	20.7	15.9	13.4	50.6	19.7	252	27.1	14.5	39.3	28.3	102	15	16	13.4	252	400 ³	NO	13.4	YES
Magnesium	500	3970	1020	4900	5320	19800	1440	1540	2270	949	22600	17900	3420	44900	16000	39200	18800	15	16	949	44900	NA ²	NO	2270	YES
Manganese	1.5	696	602	1100	2160	12400	434	345	697	654	2210	15500	665	2310	2020	2330	11300	15	16	345	15500	20400 ¹	NO	697	YES
Mercury	0.1	0.21	0.085	0.34	0.17	0.098	0.064 B	0.081 B	0.057 B	0.17	0.17	0.25	0.16	0.35	0.59	0.15	0.11 B	12	16	0.085	0.59	0.44 ⁵	YES	0.057 B	YES
Nickel	4	11.7	10.3	13.8	12.3	15.4	13	14.7	20.8	11.7	20.8	47	58.3	34.7	112	37.8	21.8	15	16	10.3	112	20400 ¹	NO	20.8	YES
Potassium	500	565	519	841	720	926	1510	1610	1220	444	1300	1060	932	2710	1290	1760	1050	15	16	444	2710	NA ²	NO	1220	NO
Selenium	3.5	3.6 R	0.37	3.8 R	4.2 R	4.3 R	4.3 R	4.3 R	3.7 R	1.2	4.5 R	3.9 R	0.31	3.9 R	4 R	3.9 R	5.2 R	4	16	0.31	1.2	5110 ¹	NO	3.7 R	NO
Silver	1	ND	ND	ND	0.13	1.1	ND	ND	ND	ND	0.24	1.2	ND	0.64	0.24	0.39	1.2	7	16	ND	1.2	5110 ¹	NO	ND	YES
Sodium	500	142	53 B	151	197	462	62 B	63.4 B	62.9 B	83 B	926	423	142	1210	543	940	443	10	16	142	1210	NA ²	NO	62.9 B	NO
Thallium	2.5	ND	ND	ND	ND	8.2	ND	ND	ND	ND	ND	ND	ND	0.65 B	3.3 B	1.6 B	ND	2	16	ND	8.2	71.5 ¹	NO	ND	YES
Vanadium	5	14.9	14.2	15.3	15.8	157	30.9	24.7	21.9	20.6	25.3	90.3	17	4.8	16.7	8.7	164	15	16	4.8	164	1020 ¹	NO	21.9	YES
Zinc	6	209	53.3	61.5	57.5	67.9	45.5	47.1	71.1	126	181	554	87.9	463	451	578	85	15	16	45.5	578	307000 ¹	NO	71.1	YES
Cyanide	2.5	ND	ND	ND	0.35	0.47	ND	ND	ND	0.26	0.24	1.1	ND	1.7	0.52	1.9	0.25	8	16	ND	1.9	20400 ¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

2 Essential Nutrient. Eliminated from consideration as COC.

3 Memorandum: OSWER Directive: Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. United States Environmental Protection Agency, August 1994. Office of Solid Waste and Emergency Response. Directive 9355.4-12.

4 Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg.

5 Published natural background concentration for mercury in soil in West Virginia ranges from 0.02 to 0.44 mg/Kg.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Background concentration from site specific location SS8.

Table 1B. Occurrence, Distribution and Selection of COC's																									
Surface Soil (<2 feet bgs)																									
Thiokol-Specialty Chemical Division CERCLIS Site																									
Newell, Hancock County, West Virginia																									
COPC	CRDL	Concentration (mg/Kg)																Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12	SS13	SS14	SS15	SS16 (FD of SS5)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Base Neutral Acid Compounds																									
Benzaldehyde	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Phenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Bis(2-chloroethyl)ether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Chlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,2'-Oxybis(1-chloropropane)	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Acetophenone	0.17	0.29	ND	0.2	0.2	ND	ND	ND	ND	ND	ND	0.79	0.12	0.42	0.28	0.63	ND	8	16	ND	0.79	102000	¹ NO	ND	YES
4-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
N-Nitroso-di-n-propylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Hexachloroethane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Nitrobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Isophorone	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Nitrophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4-Dimethylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Bis(2-chloroethoxy)methane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4-Dichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Naphthalene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND	1	16	ND	0.17	20400	¹ NO	ND	YES
4-Chloroaniline	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Hexachlorobutadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Caprolactam	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
4-Chloro-3-methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Methylnaphthalene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Hexachlorocyclopentadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4,6-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4,5-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
1,1'-Biphenyl	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Chloronaphthalene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND	ND	ND	ND	ND	1	16	ND	0.23	50	² NO	ND	NO
Dimethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,6-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Acenaphthylene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
3-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Acenaphthene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4-Dinitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
4-Nitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	ND	ND	ND	ND	1	16	ND	0.21	7050	² NO	ND	NO
Dibenzofuran	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
2,4-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Diethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Fluorene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	ND	ND	1	16	ND	0.63	4090	¹ NO	ND	YES
4-Chlorophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
4-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
N-Nitrosodiphenylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	1	16	ND	0.17	580	¹ NO	ND	YES
1,2,4,5-Tetrachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
4-Bromophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Hexachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Atrazine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Pentachlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	
Phenanthrene	0.17	0.11	ND	ND	0.15	ND	ND	ND	ND	ND	0.47	0.25	0.63	ND	14	ND	ND	6	16	ND	14	307000	³ NO	ND	YES
Anthracene	0.17	0.15	ND	ND	ND	ND	ND	ND	ND	ND	0.46	ND	0.25	ND	23	ND	ND	4	16	ND	23	307000	¹ NO	ND	YES
Carbazole	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.64	ND	ND	1	16	ND	0.64	140	¹ NO	ND	YES
Di-n-butylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	¹ NO	ND	NO	

Table 1B. Occurrence, Distribution and Selection of COC's																									
Surface Soil (<2 feet bgs)																									
Thiokol-Specialty Chemical Division CERCLIS Site																									
Newell, Hancock County, West Virginia																									
COPC	CRDL	Concentration (mg/Kg)																Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12	SS13	SS14	SS15	SS16 (FD of SSS)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Fluoranthene	0.17	0.45	ND	ND	0.37	ND	ND	ND	ND	0.15	0.88	1.8	0.75	ND	2.1	ND	ND	7	16	ND	2.1	40900 ¹	NO	ND	YES
Pyrene	0.17	0.4	ND	0.27	0.44	ND	ND	ND	ND	0.16	0.85	0.42	1.2	ND	2.5	ND	ND	8	16	ND	2.5	30700 ¹	NO	ND	YES
Butylbenzylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
3,3'-Dichlorobenzidine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Benzo(a)anthracene	0.17	ND	ND	0.13	0.23	ND	ND	ND	ND	ND	0.47	0.19	0.42	ND	0.58	ND	ND	6	16	ND	0.58	3.9 ¹	NO	ND	YES
Chrysene	0.17	ND	ND	0.15	0.29	ND	ND	ND	ND	ND	0.69	0.17	0.52	ND	1.3	ND	ND	6	16	ND	1.3	390 ¹	NO	ND	YES
Bis(2-ethylhexyl)phthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	0.44	0.17	ND	ND	ND	ND	3	16	ND	2	200 ¹	NO	ND	YES
Di-n-octylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Benzo(b)fluoranthene	0.17	0.48	ND	0.15	0.34	ND	ND	ND	ND	ND	0.66	ND	0.41	ND	ND	ND	ND	5	16	ND	0.66	3.9 ¹	NO	ND	YES
Benzo(k)fluoranthene	0.17	0.61	ND	0.18	0.26	ND	ND	ND	ND	ND	0.5	ND	0.39	ND	ND	ND	ND	5	16	ND	0.61	39 ¹	NO	ND	YES
Benzo(a)pyrene	0.17	0.46	ND	0.16	0.29	ND	ND	ND	ND	ND	0.49	ND	0.34	ND	0.8	ND	ND	6	16	ND	0.8	0.39 ¹	YES	ND	YES
Indeno(1,2,3-cd)pyrene	0.17	0.79	ND	0.15	0.26	ND	ND	ND	ND	ND	0.49	ND	0.25	ND	ND	ND	ND	5	16	ND	0.79	3.9 ¹	NO	ND	YES
Dibenzo(a,h)anthracene	0.17	0.23	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	ND	ND	ND	ND	ND	2	16	ND	0.23	0.39 ¹	NO	ND	YES
Benzo(g,h,i)perylene	0.17	0.75	ND	0.13	0.23	ND	ND	ND	ND	ND	0.43	ND	0.21	ND	0.44	ND	ND	6	16	ND	0.75	30700 ³	NO	ND	YES
2,3,4,6-Tetrachlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Pesticides																									
alpha-BHC	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
beta-BHC	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
delta-BHC	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
gamma-BHC (Lindane)	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Heptachlor	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Aldrin	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Heptachlor epoxide	0.0017	ND	ND	ND	0.0049	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	16	ND	0.0049	0.31 ¹	NO	ND	YES
Endosulfan I	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Dieldrin	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
4,4'-DDE	0.0033	ND	0.027	0.0052	0.033	0.14	ND	ND	ND	0.043	ND	ND	0.055	ND	ND	ND	ND	6	16	ND	0.14	8.4 ¹	NO	ND	YES
Endrin	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Endosulfan II	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
4,4'-DDD	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Endosulfan sulfate	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0069	ND	ND	ND	ND	ND	1	16	ND	0.0069	6100 ¹	NO	ND	YES
4,4'-DDT	0.0033	0.012	0.021	0.0033	0.011	0.0098	ND	ND	ND	0.044	ND	ND	0.041	ND	ND	ND	ND	7	16	ND	0.044	8.4 ¹	NO	ND	YES
Methoxychlor	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0061	ND	ND	ND	ND	ND	1	16	ND	0.0061	5110 ¹	NO	ND	NO
Endrin Ketone	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Endrin aldehyde	0.0033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
alpha-Chlordane	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
gamma-Chlordane	0.0017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO
Toxaphene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

2 Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1.

3 West Virginia Department of Environmental Protection, SUPPLEMENTAL GUIDANCE, Polynuclear Aromatic Hydrocarbons (PAHs) Dminimis Standards, October 2002.

BG Background concentration from site specific location SS8.

Table 1C. Occurrence, Distribution and Selection of COC's
Surface Soil (<2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)				Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS5	SS11	SS13	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Specialty Biocide Compounds													
Acifluorfen (Blazer)	0.17	ND	ND	0.26	0.042	2	4	ND	0.26	NA	NO	NA	NO
Pendimethalin (Prowl)	0.0013	67.9	0.12	NA	2700	3	4	0.12	2700	30000 ²	NO	NA	YES
Herbicide Compounds													
2,4-D	0.17	ND	ND	ND	0.04	1	4	ND	0.04	10000 ¹	NO	NA	NO
2,4-DB	0.33	ND	ND	0.15	ND	1	4	ND	0.15	8200 ¹	NO	NA	NO
2,4,5-TP (Silvex)	0.033	ND	ND	ND	ND	0	4	ND	ND	8200 ¹	NO	NA	NO
2,4,5-T	0.033	1.4	ND	ND	2	2	4	ND	2	10000 ¹	NO	NA	YES
Dalapon	0.17	0.11	0.095	0.059	0.064	4	4	0.059	0.11	31000 ¹	NO	NA	NO
Dicamba	0.033	ND	ND	ND	ND	0	4	ND	ND	31000 ¹	NO	NA	NO
Dichloroprop	0.17	ND	ND	ND	ND	0	4	ND	ND	NA	NO	NA	NO
Dinoseb	0.083	ND	ND	ND	ND	0	4	ND	ND	1000 ¹	NO	NA	NO
Picloram	0.083	ND	ND	ND	ND	0	4	ND	ND	NA	NO	NA	NO
Wet Chemistry Compounds													
Formaldehyde	4	ND	ND	NA	ND	0	4	ND	ND	200,000 ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

² ATSDR Adult Comparison Value, Reference Dose Media Evaluation Guide PUBLIC HEALTH ASSESSMENT, CENEX SUPPLY AND MARKETING, INCORPORATED (a/k/a WESTERN FARMERS, INCORPORATED), QUINCY, GRANT COUNTY, WASHINGTON

Table 2A. Occurrence, Distribution and Selection of COC's
Sediment as Surface Soil (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)			Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1	SD7 (FD of SD1	SD4	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Inorganics												
Aluminum	20	6240	5770	8510	3	3	5770	8510	NA ¹	NO	9600	NO
Antimony	6	0.72 B	0.58 B	20.6	1	3	20.6	20.6	409 ¹	NO	0.56 B	YES
Arsenic	1	8.8	10	5.5	3	3	5.5	10	13 ⁴	NO	8.1	NO
Barium	20	46.9	46.3	233	3	3	46.3	233	204000 ¹	NO	93.6	NO
Beryllium	0.5	0.23	0.32	0.75	3	3	0.23	0.75	2040 ¹	NO	0.61	NO
Cadmium	0.5	0.23	ND	2.3	2	3	ND	2.3	511 ¹	NO	0.65	YES
Calcium	500	610	784	122000	3	3	610	122000	NA ²	NO	3670	YES
Chromium	1	8	7.3	41.4	3	3	7.3	41.4	1530000 ¹	NO	17.6	NO
Cobalt	5	4.8	4.1	21	3	3	4.1	21	NA ¹	NO	10.5	NO
Copper	2.5	10.9	10.9	672	3	3	10.9	672	40900 ¹	NO	19.9	YES
Iron	10	18300	18500	19100	3	3	18300	19100	307000 ¹	NO	35100	NO
Lead	1	10.9	10.5	66	3	3	10.5	66	400 ³	NO	13.4	YES
Magnesium	500	1060	1060	14900	3	3	1060	14900	NA ²	NO	2270	YES
Manganese	1.5	445	462	1210	3	3	445	1210	20400 ¹	NO	697	NO
Mercury	0.1	0.05 B	ND	1.4	1	3	ND	1.4	0.44 ⁵	YES	0.057 B	YES
Nickel	4	9.4	9.3	32	3	3	9.3	32	20400 ¹	NO	20.8	NO
Potassium	500	458	400	913	3	3	400	913	NA ²	NO	1220	NO
Selenium	3.5	3.9 R	ND	1.6	1	3	ND	1.6	5110 ¹	NO	3.7 R	NO
Silver	1	ND	ND	0.64	1	3	ND	0.64	5110 ¹	NO	ND	NO
Sodium	500	45.2 B	40.5 B	401	1	3	401	401	NA ²	NO	62.9 B	NO
Thallium	2.5	ND	ND	ND	0	3	ND	ND	71.5 ¹	NO	ND	NO
Vanadium	5	14	12.2	15.7	3	3	12.2	15.7	1020 ¹	NO	21.9	NO
Zinc	6	36.7	34.7	432	3	3	34.7	432	307000 ¹	NO	71.1	YES
Cyanide	2.5	ND	ND	0.65	1	3	ND	0.65	20400 ¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

² Essential Nutrient. Eliminated from consideration as COC.

³ Memorandum: OSWER Directive: Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. United States Environmental Protection Agency, August 1994. Office of Solid Waste and Emergency Response. Directive 9355.4-12.

⁴ Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg.

⁵ Published natural background concentration for mercury in soil in West Virginia ranges from 0.02 to 0.44 mg/Kg.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Background concentration from site specific location SS8.

Table 2B. Occurrence, Distribution and Selection of COC's
Sediment as Surface Soil (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)			Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1	SD7 (FD of SD1	SD4	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Base Neutral Acid Compounds												
Benzaldehyde	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Phenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Bis(2-chloroethyl)ether	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Chlorophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Methylphenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,2'-Oxybis(1-chloropropane)	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Acetophenone	0.17	ND	ND	0.26	1	3	ND	0.26	102000	¹	NO	YES
4-Methylphenol	0.17	ND	ND	0.66	1	3	ND	0.66	5100	¹	NO	YES
N-Nitroso-di-n-propylamine	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Hexachloroethane	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Nitrobenzene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Isophorone	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Nitrophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4-Dimethylphenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Bis(2-chloroethoxy)methane	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4-Dichlorophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Naphthalene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Chloroaniline	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Hexachlorobutadiene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Caprolactam	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Chloro-3-methylphenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Methylnaphthalene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Hexachlorocyclopentadiene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4,6-Trichlorophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4,5-Trichlorophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
1,1'-Biphenyl	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Chloronaphthalene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2-Nitroaniline	0.33	ND	ND	ND	0	3	ND	ND	²	NO	ND	NO
Dimethylphthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,6-Dinitrotoluene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Acenaphthylene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
3-Nitroaniline	0.33	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Acenaphthene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4-Dinitrophenol	0.33	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Nitrophenol	0.33	ND	ND	ND	0	3	ND	ND	²	NO	ND	NO

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Table 2B. Occurrence, Distribution and Selection of COC's
Sediment as Surface Soil (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)			Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1	SD7 (FD of SD1)	SD4	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Dibenzofuran	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
2,4-Dinitrotoluene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Diethylphthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Fluorene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Chlorophenyl-phenylether	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Nitroaniline	0.33	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
N-Nitrosodiphenylamine	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
1,2,4,5-Tetrachlorobenzene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4-Bromophenyl-phenylether	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Hexachlorobenzene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Atrazine	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Pentachlorophenol	0.33	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Phenanthrene	0.17	ND	ND	0.25	1	3	ND	0.25	307000 ³	NO	ND	YES
Anthracene	0.17	ND	ND	0.23	1	3	ND	0.23	307000 ¹	NO	ND	YES
Carbazole	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Di-n-butylphthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Fluoranthene	0.17	ND	ND	0.29	1	3	ND	0.29	40900 ¹	NO	ND	YES
Pyrene	0.17	ND	ND	0.3	1	3	ND	0.3	30700 ¹	NO	ND	YES
Butylbenzylphthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
3,3'-Dichlorobenzidine	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Benzo(a)anthracene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Chrysene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Bis(2-ethylhexyl)phthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Di-n-octylphthalate	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Benzo(b)fluoranthene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Benzo(k)fluoranthene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Benzo(a)pyrene	0.17	ND	ND	0.26	1	3	ND	0.26	0.39 ¹	NO	ND	YES
Indeno(1,2,3-cd)pyrene	0.17	ND	ND	0.28	1	3	ND	0.28	3.9 ¹	NO	ND	YES
Dibenzo(a,h)anthracene	0.17	ND	ND	0.28	1	3	ND	0.28	0.39 ¹	NO	ND	YES
Benzo(g,h,i)perylene	0.17	ND	ND	ND	0	3	ND	ND	³	NO	ND	NO
2,3,4,6-Tetrachlorophenol	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Pesticides												
alpha-BHC	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
beta-BHC	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
delta-BHC	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO

Table 2B. Occurrence, Distribution and Selection of COC's
Sediment as Surface Soil (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)			Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1	SD7 (FD of SD1)	SD4	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
gamma-BHC (Lindane)	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Heptachlor	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Aldrin	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Heptachlor epoxide	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endosulfan I	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Dieldrin	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4,4'-DDE	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endrin	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endosulfan II	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4,4'-DDD	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endosulfan sulfate	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
4,4'-DDT	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Methoxychlor	0.017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endrin Ketone	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Endrin aldehyde	0.0033	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
alpha-Chlordane	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
gamma-Chlordane	0.0017	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO
Toxaphene	0.17	ND	ND	ND	0	3	ND	ND	¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

2 Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1.

3 West Virginia Department of Environmental Protection, SUPPLEMENTAL GUIDANCE, Polynuclear Aromatic Hydrocarbons (PAHs) Deminimis Standards, October 2002.

BG Background concentration from site specific location SS8.

Table 2C. Occurrence, Distribution and Selection of COC's
Sediment as Surface Soil (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration		Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1	SD4	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Specialty Biocide Compounds											
Acifluorfen (Blazer)	0.17	ND	ND	0	2	ND	ND	NA	NO	NA	NO
Pendimethalin (Prowl)	0.0013	0.0052	16	2	2	0.0052	16	30000 ²	NO	NA	YES
Herbicide Compounds											
2,4-D	0.17	ND	0.079	1	2	ND	0.079	10000 ¹	NO	NA	NO
2,4-DB	0.33	0.043	ND	1	2	ND	0.043	8200 ¹	NO	NA	NO
2,4,5-TP (Silvex)	0.033	ND	ND	0	2	ND	ND	8200 ¹	NO	NA	NO
2,4,5-T	0.033	ND	ND	0	2	ND	ND	10000 ¹	NO	NA	NO
Dalapon	0.17	0.27	0.52	2	2	0.27	0.52	31000 ¹	NO	NA	YES
Dicamba	0.033	ND	0.073	1	2	ND	0.073	31000 ¹	NO	NA	NO
Dichloroprop	0.17	0.065	0.15	2	2	0.065	0.15	NA	NO	NA	NO
Dinoseb	0.083	ND	ND	0	2	ND	ND	1000 ¹	NO	NA	NO
Picloram	0.083	ND	ND	0	2	ND	ND	NA	NO	NA	NO
Wet Chemistry Compounds											
Formaldehyde	4	ND	ND	0	2	ND	ND	200000 ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III Industrial Soil Risk Based Concentration, April 2006

² ATSDR Adult Comparison Value, Reference Dose Media Evaluation Guide PUBLIC HEALTH ASSESSMENT, CENEX SUPPLY AND MARKETING, INCORPORATED (a/k/a WESTERN FARMERS, INCORPORATED), QUINCY, GRANT COUNTY, WASHINGTON

Table 3A. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)						Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2	SB3	SB4	SB5	SB6 (FD of SB3)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Inorganics															
Aluminum	20	7290	8390	6640	4970	5470	6550	6	6	4970	8390	NA ¹	NO	9600	NO
Antimony	6	0.81 B	0.57 B	0.48 B	0.7 B	0.72 B	0.63 B	0	6	0	ND	409 ¹	NO	0.56 B	NO
Arsenic	1	6.1	9.8	8.5	7.8	9.1	8.2	6	6	6.1	9.8	13 ⁴	NO	8.1	NO
Barium	20	33	73.9	92.3	21.5	36.8	99.1	6	6	21.5	99.1	204000 ¹	NO	93.6	NO
Beryllium	0.5	0.29	0.49	0.44	0.3	0.31	0.41	6	6	0.29	0.49	2040 ¹	NO	0.61	NO
Cadmium	0.5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	511 ¹	NO	0.65	NO
Calcium	500	530	516	868	353	379	1280	6	6	353	1280	NA ²	NO	3670	NO
Chromium	1	7.2	8.2	7.7	8	7.5	6.7	6	6	6.7	8.2	1530000 ¹	NO	17.6	NO
Cobalt	5	3.7	5.1	3.5	2.7	4.1	3.4	6	6	2.7	5.1	NA ¹	NO	10.5	NO
Copper	2.5	12.5	13.8	16.8	15.7	11.7	15.5	6	6	11.7	16.8	40900 ¹	NO	19.9	NO
Iron	10	16200	22800	21200	19600	18800	16600	6	6	16200	22800	307000 ¹	NO	35100	NO
Lead	1	6.4	11.6	13	7.3	8.5	13.5	6	6	6.4	13.5	400 ³	NO	13.4	NO
Magnesium	500	1240	1220	1100	1080	1020	1320	6	6	1020	1320	NA ²	NO	2270	NO
Manganese	1.5	268	1170	830	452	455	760	6	6	268	1170	20400 ¹	NO	697	NO
Mercury	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	0.44 ⁵	NO	0.057 B	NO
Nickel	4	9.5	12	10.5	8.9	9.3	9.4	6	6	8.9	12	20400 ¹	NO	20.8	NO
Potassium	500	432	421	439	330	423	413	6	6	330	439	NA ²	NO	1220	NO
Selenium	3.5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	5110 ¹	NO	3.7 R	NO
Silver	1	ND	ND	ND	ND	0.09	ND	1	6	ND	0.09	5110 ¹	NO	ND	NO
Sodium	500	47.3 B	38.2 B	203	43.1 B	205	197	3	6	197	205	NA ²	NO	62.9 B	NO
Thallium	2.5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	71.5 ¹	NO	ND	NO
Vanadium	5	11.7	17.8	12.6	9.6	11.8	11.2	6	6	9.6	17.8	1020 ¹	NO	21.9	NO
Zinc	6	29.3	72.6	44.5	33.5	34.7	42.8	6	6	29.3	72.6	307000 ¹	NO	71.1	NO
Cyanide	2.5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	20400 ¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III Industrial Soil Risk Based Concentration, April 2006

² Essential Nutrient. Eliminated from consideration as COC.

³ Memorandum: OSWER Directive: Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. United States Environmental Protection Agency, August 1994.
Office of Solid Waste and Emergency Response. Directive 9355.4-12.

⁴ Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg

⁵ Published natural background concentration for mercury in soil in West Virginia ranges from 0.02 to 0.44 mg/Kg

B Result estimated due to laboratory contamination

R Result rejected according to data validation guidelines

BG Background concentration from site specific location SS8.

Table 3B. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)						Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2	SB3	SB4	SB5	SB6 (FD of SB3)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Semi-Volatile Organic Compounds															
Benzaldehyde	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Phenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Bis(2-chloroethyl)ether	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁴	NO	NA	NO
2-Chlorophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2-Methylphenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,2'-Oxybis(1-chloropropane)	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Acetophenone	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	NA	NO
4-Methylphenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
N-Nitroso-di-n-propylamine	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Hexachloroethane	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Nitrobenzene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Isophorone	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2-Nitrophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	NA	NO
2,4-Dimethylphenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Bis(2-chloroethoxy)methane	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁵	NO	NA	NO
2,4-Dichlorophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Naphthalene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
4-Chloroaniline	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Hexachlorobutadiene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Caprolactam	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	NA	NO
4-Chloro-3-methylphenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2-Methylnaphthalene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Hexachlorocyclopentadiene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,4,6-Trichlorophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,4,5-Trichlorophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
1,1'-Biphenyl	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2-Chloronaphthalene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2-Nitroaniline	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Dimethylphthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,6-Dinitrotoluene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Acenaphthylene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
3-Nitroaniline	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Acenaphthene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,4-Dinitrophenol	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
4-Nitrophenol	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Dibenzofuran	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
2,4-Dinitrotoluene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Diethylphthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
Fluorene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
4-Chlorophenyl-phenylether	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
4-Nitroaniline	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
4,6-Dinitro-2-methylphenol	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO
N-Nitrosodiphenylamine	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	NA	NO

Table 3B. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)						Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2	SB3	SB4	SB5	SB6 (FD of SB3)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
1,2,4,5-Tetrachlorobenzene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
4-Bromophenyl-phenylether	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Hexachlorobenzene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Atrazine	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Pentachlorophenol	0.37	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Phenanthrene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Anthracene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Carbazole	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Di-n-butylphthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Fluoranthene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Pyrene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Butylbenzylphthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
3,3'-Dichlorobenzidine	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Benzo(a)anthracene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Chrysene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Bis(2-ethylhexyl)phthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Di-n-octylphthalate	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Benzo(b)fluoranthene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Benzo(k)fluoranthene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Benzo(a)pyrene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Indeno(1,2,3-cd)pyrene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Dibenzo(a,h)anthracene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Benzo(g,h,i)perylene	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
2,3,4,6-Tetrachlorophenol	0.19	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	NA	NO
Pesticides															
alpha-BHC	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
beta-BHC	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
delta-BHC	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
gamma-BHC (Lindane)	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
Heptachlor	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
Aldrin	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
Heptachlor epoxide	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
Endosulfan I	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
Dieldrin	0.0033	ND	ND	ND	ND	ND	ND	0	6	ND	ND	8.4	NO	NA	NO
4,4'-DDE	0.0033	ND	ND	0.18	ND	0.021	0.17	3	6	ND	0.18	8.4	NO	NA	YES
Endrin	0.0033	ND	ND	ND	ND	ND	ND	0	6	ND	ND	310	NO	NA	NO
Endosulfan II	0.0033	ND	ND	ND	ND	ND	ND	0	6	ND	ND	6100	NO	NA	NO
4,4'-DDD	0.0033	ND	ND	0.065	ND	ND	0.2	2	6	ND	0.2	12	NO	NA	YES
Endosulfan sulfate	0.0033	ND	ND	ND	ND	ND	ND	0	6	ND	ND	6100	NO	NA	NO
4,4'-DDT	0.0033	ND	ND	0.066	ND	0.0066	0.12	3	6	ND	0.12	8.4	NO	NA	YES
Methoxychlor	0.017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	5110	NO	NA	NO
Endrin Ketone	0.0033	ND	0.027	ND	ND	0.0019	ND	2	6	ND	0.027	NA	NO	NA	YES
Endrin aldehyde	0.0033	ND	ND	ND	ND	ND	ND	0	6	ND	ND	NA	NO	NA	NO
alpha-Chlordane	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	NA	NO	NA	NO

Table 3B. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)						Frequency		Concentration		Action Level	COC ?	Background	HRS
		SB1	SB2	SB3	SB4	SB5	SB6 (FD of SB3)	Detects	Samples	Min (mg/kg)	Max (mg/kg)	Concentration (mg/Kg)		Concentration (mg/Kg)	Observed Release?
gamma-Chlordane	0.0017	ND	ND	ND	ND	ND	ND	0	6	ND	ND	NA ¹	NO	NA	NO
Toxaphene	0.17	ND	ND	ND	ND	ND	ND	0	6	ND	ND	NA ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III Industrial Soil Risk Based Concentration, April 2006.

2 Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1.

3 West Virginia Department of Environmental Protection, SUPPLEMENTAL GUIDANCE, Polynuclear Aromatic Hydrocarbons (PAHs) Dminimis Standards, October 2002.

BG Background concentration from site specific location SS8.

Table 3C. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)		Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB3	SB5	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Specialty Biocide Compounds											
Acifluorfen (Blazer)	0.17	ND	ND	0	2	ND	ND	NA	NO	NA	NO
Pendimethalin (Prowl)	0.0013	0.62	ND	1	2	ND	0.62	30000 ²	NO	NA	YES
Herbicide Compounds											
2,4-D	0.17	ND	ND	0	2	ND	ND	10000 ¹	NO	NA	NO
2,4-DB	0.33	ND	ND	0	2	ND	ND	8200 ¹	NO	NA	NO
2,4,5-TP (Silvex)	0.033	ND	ND	0	2	ND	ND	8200 ¹	NO	NA	NO
2,4,5-T	0.033	0.1	ND	1	2	ND	0.1	10000 ¹	NO	NA	YES
Dalapon	0.17	0.076	ND	1	2	ND	0.076	31000 ¹	NO	NA	NO
Dicamba	0.033	ND	ND	0	2	ND	ND	31000 ¹	NO	NA	NO
Dichloroprop	0.17	ND	ND	0	2	ND	ND	NA	NO	NA	NO
Dinoseb	0.083	ND	ND	0	2	ND	ND	1000 ¹	NO	NA	NO
Picloram	0.083	ND	ND	0	2	ND	ND	NA	NO	NA	NO
Wet Chemistry Compounds											
Formaldehyde	4	ND	ND	0	2	ND	ND	200000 ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III Industrial Soil Risk Based Concentration, April 2006

² ATSDR Adult Comparison Value, Reference Dose Media Evaluation Guide PUBLIC HEALTH ASSESSMENT, CENEX SUPPLY AND MARKETING, INCORPORATED (a/k/a WESTERN FARMERS, INCORPORATED), QUINCY, GRANT COUNTY, WASHINGTON

Table 3D. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/Kg)						Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SB1	SB2	SB3	SB4	SB5	SB6	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
Volatile Organic Compounds															
Dichlorodifluoromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Chloromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Vinyl chloride	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁴	NO		NO
Bromomethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Chloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Trichlorofluoromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,1-Dichloroethene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO		NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Acetone	11	41 B	140 B	170	9.7 B	7.4 B	190	2	6	170	190	1100	¹ NO	NA	YES
Carbon disulfide	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Methyl acetate	5.3	ND	89	2400	ND	ND	8.6	3	6	ND	2400	1200	¹ YES	NA	YES
Methylene chloride	5.3	ND	ND	ND	10 B	8.1 B	ND	0	6	ND	ND	0.95	¹ NO	NA	NO
trans-1,2-Dichloroethene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO		NO
Methyl tert-butyl ether	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,1-Dichloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁵	NO		NO
cis-1,2-Dichloroethene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
2-Butanone	5.3	7.2	24	16	ND	ND	20	4	6	ND	24	1400	¹ NO	NA	YES
Bromochloromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Chloroform	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,1,1-Trichloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO		NO
Cyclohexane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Carbon tetrachloride	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Benzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2-Dichloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,4-Dioxane	110	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Trichloroethene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Methylcyclohexane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2-Dichloropropane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Bromodichloromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
cis-1,3-Dichloropropene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
4-Methyl-2-pentanone	11	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Toluene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
trans-1,3-Dichloropropene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,1,2-Trichloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Tetrachloroethene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
2-Hexanone	11	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Dibromochloromethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2-Dibromoethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Chlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Ethylbenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
o-Xylene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
m,p-Xylene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Styrene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO

Table 3D. Occurrence, Distribution and Selection of COC's
Subsurface Soil (>2 feet bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/Kg)						Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SB1	SB2	SB3	SB4	SB5	SB6	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
Bromoform	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
Isopropylbenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,1,2,2-Tetrachloroethane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,3-Dichlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,4-Dichlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2-Dichlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2-Dibromo-3-chloropropane	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2,4-Trichlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO
1,2,3-Trichlorobenzene	5.3	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO		NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region III SSLs, Soil Migration to Groundwater, DAF1, April 2006.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

Table 4A. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)				Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD2	SD3	SD5	SD6	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Inorganics													
Aluminum	20	8160	9570	4700	3690	4	4	3690	9570	NA	NO	8160	NO
Antimony	6	0.85 B	1.1 B	0.76 B	0.81 B	0	4	0	ND	2 ²	NO	0.85 B	NO
Arsenic	1	11.6	7.9	9.7	6.1	4	4	6.1	11.6	13 ³	NO	11.6	NO
Barium	20	104	132	51.8	37	4	4	37	132	NA	NO	104	NO
Beryllium	0.5	0.64	0.77	0.45	0.27	4	4	0.27	0.77	NA	NO	0.64	NO
Cadmium	0.5	0.73	0.85	0.17	ND	3	4	ND	0.85	0.99 ²	NO	0.73	NO
Calcium	500	3330	3270	6630	1420	4	4	1420	6630	NA	NO	3330	NO
Chromium	1	32.5	24.1	8	6.5	4	4	6.5	32.5	43.4 ²	NO	32.5	NO
Cobalt	5	13.1	13.2	4.7	3.3	4	4	3.3	13.2	50 ²	NO	13.1	NO
Copper	2.5	18.3	21.6	16.5	11.7	4	4	11.7	21.6	31.6 ²	NO	18.3	NO
Iron	10	38700	42200	28100	21200	4	4	21200	42200	20000 ²	YES	38700	NO
Lead	1	17.4	19.7	11.2	6.6	4	4	6.6	19.7	35.8 ²	NO	17.4	NO
Magnesium	500	2450	2810	2390	1280	4	4	1280	2810	NA	NO	2450	NO
Manganese	1.5	1170	1210	338	417	4	4	338	1210	460 ²	YES	1170	NO
Mercury	0.1	ND	ND	ND	ND	0	4	ND	ND	0.44 ⁴	NO	ND	NO
Nickel	4	23	25.8	12.5	10	4	4	10	25.8	21 ¹	YES	23	NO
Potassium	500	1120	1200	671	377	4	4	377	1200	NA	NO	1120	NO
Selenium	3.5	4.7 R	4.7 R	ND	ND	0	4	ND	ND	2 ²	NO	4.7 R	NO
Silver	1	ND	0.12	ND	ND	1	4	ND	0.12	1 ²	NO	ND	NO
Sodium	500	147	108 B	83.9 B	69 B	1	4	147	147	NA	NO	147	NO
Thallium	2.5	ND	ND	ND	ND	0	4	ND	ND	NA	NO	ND	NO
Vanadium	5	27.4	27.1	11.6	9.2	4	4	9.2	27.4	NA	NO	27.4	NO
Zinc	6	73.8	84.2	50.9	33.5	4	4	33.5	84.2	121 ²	NO	73.8	NO
Cyanide	2.5	ND	ND	ND	ND	0	4	ND	ND	0.1 ²	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA ECO Update, Ecotox Thresholds, January 1996, supplement to USEPA Risk Assessment Guidance for Superfund (RAGS), Volume II, Environmental Evaluation Manu

2 USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.

3 Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg

4 Published natural background concentration for mercury in soil in West Virginia ranges from 0.02 to 0.44 mg/Kg

B Result estimated due to laboratory contamination

R Result rejected according to data validation guidelines

BG Background concentration from site specific location SD2, upstream Dry Run

Table 4B. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)				Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD2	SD3	SD5	SD6	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Base Neutral Acid Compounds													
Benzaldehyde	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Phenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Bis(2-chloroethyl)ether	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Chlorophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Methylphenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,2'-Oxybis(1-chloropropane)	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Acetophenone	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Methylphenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
N-Nitroso-di-n-propylamine	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Hexachloroethane	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Nitrobenzene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Isophorone	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Nitrophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,4-Dimethylphenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Bis(2-chloroethoxy)methane	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,4-Dichlorophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Naphthalene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Chloroaniline	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Hexachlorobutadiene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Caprolactam	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Chloro-3-methylphenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Methylnaphthalene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Hexachlorocyclopentadiene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,4,6-Trichlorophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,4,5-Trichlorophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
1,1'-Biphenyl	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Chloronaphthalene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2-Nitroaniline	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Dimethylphtthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,6-Dinitrotoluene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Acenaphthylene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
3-Nitroaniline	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Acenaphthene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
2,4-Dinitrophenol	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Nitrophenol	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Dibenzofuran	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO

Table 4B. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)				Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD2	SD3	SD5	SD6	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
2,4-Dinitrotoluene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Diethylphthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Fluorene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Chlorophenyl-phenylether	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Nitroaniline	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
N-Nitrosodiphenylamine	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
1,2,4,5-Tetrachlorobenzene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4-Bromophenyl-phenylether	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Hexachlorobenzene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Atrazine	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Pentachlorophenol	0.33	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Phenanthrene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Anthracene	0.17	0.2	ND	ND	ND	1	4	ND	0.2	0.0572 ²	YES	0.2	NO
Carbazole	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Di-n-butylphthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Fluoranthene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Pyrene	0.17	1.3	ND	ND	ND	1	4	ND	1.3	0.195 ²	YES	1.3	NO
Butylbenzylphthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
3,3'-Dichlorobenzidine	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Benzo(a)anthracene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Chrysene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Bis(2-ethylhexyl)phthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Di-n-octylphthalate	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Benzo(b)fluoranthene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Benzo(k)fluoranthene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Benzo(a)pyrene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Indeno(1,2,3-cd)pyrene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Dibenzo(a,h)anthracene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Benzo(g,h,i)perylene	0.17	0.2	ND	ND	ND	1	4	ND	0.2	0.17 ²	YES	0.2	NO
2,3,4,6-Tetrachlorophenol	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Pesticides													
alpha-BHC	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
beta-BHC	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
delta-BHC	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
gamma-BHC (Lindane)	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Heptachlor	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO

Table 4B. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (mg/Kg)				Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD2	SD3	SD5	SD6	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
Aldrin	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Heptachlor epoxide	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Endosulfan I	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Dieldrin	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4,4'-DDE	0.0033	ND	ND	ND	ND	0	4	ND	ND	²	NO	ND	NO
Endrin	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Endosulfan II	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
4,4'-DDD	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Endosulfan sulfate	0.0033	ND	ND	ND	ND	0	4	ND	ND	²	NO	ND	NO
4,4'-DDT	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Methoxychlor	0.017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Endrin Ketone	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Endrin aldehyde	0.0033	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
alpha-Chlordane	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
gamma-Chlordane	0.0017	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO
Toxaphene	0.17	ND	ND	ND	ND	0	4	ND	ND	¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA ECO Update, Ecotox Thresholds, January 1996, supplement to USEPA Risk Assessment Guidance for Superfund (RAGS), Volume II, Environmental Evaluation IV

2 USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.

BG Background concentration from site specific location SD2, upstream Dry Run

Table 4C. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD2	SD3	SD5	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
Volatile Organic Compounds												
Dichlorodifluoromethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Chloromethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Vinyl chloride	5.3	ND	ND	ND	0	3	ND	ND	4	NO		NO
Bromomethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Chloroethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Trichlorofluoromethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,1-Dichloroethene	5.3	ND	ND	ND	0	3	ND	ND	2	NO		NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Acetone	11	200	110	340	3	3	110	340	NA 1	NO	200	NO
Carbon disulfide	5.3	ND	26	ND	1	3	ND	26	0.000851 2	YES	ND	YES
Methyl acetate	5.3	28	ND	ND	1	3	ND	28	NA 1	NO	28	NO
Methylene chloride	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
trans-1,2-Dichloroethene	5.3	ND	ND	ND	0	3	ND	ND	2	NO		NO
Methyl tert-butyl ether	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,1-Dichloroethane	5.3	ND	ND	ND	0	3	ND	ND	5	NO		NO
cis-1,2-Dichloroethene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
2-Butanone	5.3	12	7.2	17	3	3	7.2	17	NA 1	NO	12	NO
Bromochloromethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Chloroform	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,1,1-Trichloroethane	5.3	ND	ND	ND	0	3	ND	ND	2	NO		NO
Cyclohexane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Carbon tetrachloride	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Benzene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,2-Dichloroethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,4-Dioxane	110	ND	ND	ND	0	3	ND	ND	1	NO		NO
Trichloroethene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Methylcyclohexane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,2-Dichloropropane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Bromodichloromethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
cis-1,3-Dichloropropene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
4-Methyl-2-pentanone	11	ND	ND	ND	0	3	ND	ND	1	NO		NO
Toluene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
trans-1,3-Dichloropropene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
1,1,2-Trichloroethane	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO
Tetrachloroethene	5.3	ND	ND	ND	0	3	ND	ND	1	NO		NO

Table 4C. Occurrence, Distribution and Selection of COC's
Surface Water Sediment (0-2 inches bgs)
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD2	SD3	SD5	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
2-Hexanone	11	100	170	390	3	3	100	390	NA ¹	NO	100	YES
Dibromochloromethane	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,2-Dibromoethane	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
Chlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
Ethylbenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
o-Xylene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
m,p-Xylene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
Styrene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
Bromoform	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
Isopropylbenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,1,2,2-Tetrachloroethane	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,3-Dichlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,4-Dichlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,2-Dichlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,2-Dibromo-3-chloropropane	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,2,4-Trichlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO
1,2,3-Trichlorobenzene	5.3	ND	ND	ND	0	3	ND	ND	¹	NO		NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA ECO Update, Ecotox Thresholds, January 1996, supplement to USEPA Risk Assessment Guidance for Superfund (RAGS), Volume II, Environmental Evaluation Manual.

² USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks

BG Background concentration from site specific location SD2, upstream Dry Run

Table 5A. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Inorganics															
Aluminum	200	56.1 B	33.3 B	ND	2800	945	ND	2	6	ND	2800	87 ²	YES	56.1 B	YES
Antimony	60	ND	ND	ND	ND	ND	ND	0	6	ND	ND	5.6 ¹	NO	ND	NO
Arsenic	10	ND	ND	ND	ND	4.8	ND	1	6	ND	4.8	0.018 ²	YES	ND	NO
Barium	200	39.3	37.7	95.7	163	109	94.5	6	6	37.7	163	4 ²	YES	39.3	YES
Beryllium	5	ND	ND	ND	0.45	ND	0.27 B	1	6	ND	0.45	0.66 ²	NO	ND	NO
Cadmium	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	0.25 ¹	NO	ND	NO
Calcium	5000	30800	29700	127000	66900	53100	123000	6	6	29700	127000	116000 ²	YES	30800	YES
Chromium	10	ND	ND	ND	3.1	ND	ND	1	6	ND	3.1	74 ¹	NO	ND	NO
Cobalt	50	ND	ND	ND	2.8	ND	ND	1	6	ND	2.8	23 ²	NO	ND	NO
Copper	25	ND	ND	24.8	16.3	ND	22.2	3	6	ND	24.8	9 ¹	YES	ND	NO
Iron	100	52.7	37.5	151	8440	2470	146	6	6	37.5	8440	300 ²	YES	52.7	YES
Lead	10	ND	ND	ND	10.4	3.2	ND	2	6	ND	10.4	2.5 ¹	YES	ND	YES
Magnesium	5000	8230	7930	24900	12900	12600	24400	6	6	7930	24900	82000 ²	NO	8230	YES
Manganese	15	6	5.2	20	523	172	19.5	6	6	5.2	523	50 ¹	YES	6	YES
Mercury	0.2	0.052 B	0.053 B	0.064 B	0.094 B	0.07 B	0.065 B	0	6	0	ND	0.026 ²	NO	0.052 B	NO
Nickel	40	2	ND	4	8.8	6.3	3.7	5	6	ND	8.8	52 ¹	NO	2	YES
Potassium	5000	1850	1720	8340	3820	1640	8160	6	6	1640	8340	53000 ²	NO	1850	YES
Selenium	35	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1 ²	NO	ND	NO
Silver	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	3.2 ²	NO	ND	NO
Sodium	5000	10900	10500	426000	1010000	16400	416000	6	6	10500	1010000	680000 ²	YES	10900	YES
Thallium	25	ND	ND	ND	ND	6 B	ND	0	6	ND	ND	0.8 ²	NO	ND	NO
Vanadium	50	ND	ND	ND	6.8	2.5 B	ND	1	6	ND	6.8	20 ²	NO	ND	NO
Zinc	60	3.8	2.9	26.1	33.8	12.1	25.7	6	6	2.9	33.8	120 ¹	NO	3.8	YES
Cyanide	10	ND	ND	ND	ND	ND	4.3	1	6	ND	4.3	5.2 ¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA National Recommended Water Quality Criteria (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.

2 USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, July 2006.

B Result estimated due to laboratory contamination

R Result rejected according to data validation guidelines

BG Background concentration from site specific location SW2, upstream Dry Run sample.

Table 5B. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Semi-Volatile Organic Compounds															
Benzaldehyde	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Phenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Bis(2-chloroethyl)ether	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁴	NO	ND	NO
2-Chlorophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2-Methylphenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,2'-Oxybis(1-chloropropane)	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Acetophenone	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	ND	NO
4-Methylphenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
N-Nitroso-di-n-propylamine	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Hexachloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Nitrobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Isophorone	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2-Nitrophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	ND	NO
2,4-Dimethylphenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Bis(2-chloroethoxy)methane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	⁵	NO	ND	NO
2,4-Dichlorophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Naphthalene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
4-Chloroaniline	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Hexachlorobutadiene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Caprolactam	80	ND	ND	ND	ND	ND	ND	0	6	ND	ND	²	NO	ND	NO
4-Chloro-3-methylphenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2-Methylnaphthalene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Hexachlorocyclopentadiene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,4,6-Trichlorophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,4,5-Trichlorophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
1,1'-Biphenyl	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2-Chloronaphthalene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2-Nitroaniline	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Dimethylphthalate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,6-Dinitrotoluene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Acenaphthylene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
3-Nitroaniline	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Acenaphthene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,4-Dinitrophenol	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
4-Nitrophenol	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Dibenzofuran	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
2,4-Dinitrotoluene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Diethylphthalate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Fluorene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
4-Chlorophenyl-phenylether	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
4-Nitroaniline	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
4,6-Dinitro-2-methylphenol	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
N-Nitrosodiphenylamine	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO

Table 5B. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
1,2,4,5-Tetrachlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
4-Bromophenyl-phenylether	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Hexachlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Atrazine	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Pentachlorophenol	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Phenanthrene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Anthracene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Carbazole	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Di-n-butylphthalate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Fluoranthene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Pyrene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Butylbenzylphthalate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
3,3'-Dichlorobenzidine	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Benzo(a)anthracene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Chrysene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Bis(2-ethylhexyl)phthalate	5	ND	12	ND	ND	ND	ND	1	6	ND	12	16	NO	ND	YES
Di-n-octylphthalate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Benzo(b)fluoranthene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Benzo(k)fluoranthene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Benzo(a)pyrene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Indeno(1,2,3-cd)pyrene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Dibenzo(a,h)anthracene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
2,3,4,6-Tetrachlorophenol	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Pesticides															
alpha-BHC	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
beta-BHC	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
delta-BHC	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
gamma-BHC (Lindane)	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Heptachlor	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Aldrin	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Heptachlor epoxide	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endosulfan I	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Dieldrin	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
4,4'-DDE	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endrin	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endosulfan II	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
4,4'-DDD	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endosulfan sulfate	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
4,4'-DDT	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Methoxychlor	0.5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endrin Ketone	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
Endrin aldehyde	0.1	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO
alpha-Chlordane	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	1	NO	ND	NO

Table 5B. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
gamma-Chlordane	0.05	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO
Toxaphene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND	¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, July 2006.

BG Background concentration from site specific location SW2, upstream Dry Run sample.

Table 5C. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)	Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW4	Detects	Samples	Min (ug/L)	Max (ug/L)				
Specialty Biocide Compounds										
Acifluorfen (Blazer)	5	1.2	1	1	1.2	1.2	NA	NO	NA	NO
Pendimethalin (Prowl)	0.04	0.07	1	1	0.07	0.07	NA	NO	NA	NO
Herbicide Compounds										
2,4-D	5	ND	0	1	ND	ND	100 ¹	NO	NA	NO
2,4-DB	10	ND	0	1	ND	ND	NA	NO	NA	NO
2,4,5-TP (Silvex)	1	ND	0	1	ND	ND	10 ¹	NO	NA	NO
2,4,5-T	1	ND	0	1	ND	ND	686 ²	NO	NA	NO
Dalapon	5	ND	0	1	ND	ND	NA	NO	NA	NO
Dicamba	1	ND	0	1	ND	ND	NA	NO	NA	NO
Dichloroprop	5	ND	0	1	ND	ND	NA	NO	NA	NO
Dinoseb	2.5	ND	0	1	ND	ND	0.05 ²	NO	NA	NO
Picloram	2.5	ND	0	1	ND	ND	NA	NO	NA	NO
Wet Chemistry Compounds										
Formaldehyde	40	5300	1	1	5300	5300	NA	NO	NA	YES

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

¹ USEPA National Recommended Water Quality Criteria (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.

² USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, July 2006.

Table 5D. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Volatile Organic Compounds															
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Chloromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Vinyl chloride	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Bromomethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Chloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Acetone	10	ND	ND	10 B	ND	ND	12 B	0	6	ND	ND	1500 ²	NO	ND	NO
Carbon disulfide	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Methyl acetate	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Methylene chloride	6.1	6.1 B	8 B	7.1 B	4.7 B	8 B	6.3 B	0	6	0	ND	4.6 ¹	NO	6.1 B	NO
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Methyl tert-butyl ether	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
2-Butanone	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Bromochloromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Chloroform	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Cyclohexane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Benzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,4-Dioxane	100	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Trichloroethene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Methylcyclohexane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
4-Methyl-2-pentanone	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Toluene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
2-Hexanone	10	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
o-Xylene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
m,p-Xylene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Styrene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO

Table 5D. Occurrence, Distribution and Selection of COC's
Surface Water
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW2	SW3	SW4	SW5	SW6	SW7 (FD of SW4)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Bromoform	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2-Dibromo-3-chloropropane	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO
1,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	0	6	ND	ND		NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA National Recommended Water Quality Criteria (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.

2 USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, July 2006.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Background concentration from site specific location SW2, upstream Dry Run sample.

Table 6A. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)				Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW3	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Inorganics													
Aluminum	200	ND	ND	ND	ND	0	4	ND	ND	50 ³	NO	NA	NO
Antimony	60	ND	ND	ND	ND	0	4	ND	ND	14.6 ¹	NO	NA	NO
Arsenic	10	ND	ND	ND	ND	0	4	ND	ND	0.045 ¹	NO	NA	NO
Barium	200	220	6.5	137	219	4	4	6.5	220	7300 ¹	NO	NA	NO
Beryllium	5	0.44 B	0.37 B	0.42 B	0.35 B	0	4	0	ND	73 ¹	NO	NA	NO
Cadmium	5	ND	ND	ND	ND	0	4	ND	ND	18 ¹	NO	NA	NO
Calcium	5000	39000	227	147000	39200	4	4	227	147000	NA	NO	NA	YES
Chromium	10	ND	ND	ND	ND	0	4	ND	ND	55000 ¹	NO	NA	NO
Cobalt	50	ND	ND	ND	ND	0	4	ND	ND	NA	NO	NA	NO
Copper	25	ND	249	14.5	ND	2	4	ND	249	1460 ¹	NO	NA	YES
Iron	100	5540	85	ND	5570	3	4	ND	5570	11000 ¹	NO	NA	YES
Lead	10	ND	ND	3.8	ND	1	4	ND	3.8	15 ²	NO	NA	NO
Magnesium	5000	9530	ND	25100	9500	3	4	ND	25100	NA	NO	NA	YES
Manganese	15	369	51	0.54 B	370	3	4	51	370	730 ¹	NO	NA	YES
Mercury	0.2	ND	ND	ND	ND	0	4	ND	ND	2 ²	NO	NA	NO
Nickel	40	ND	ND	ND	ND	0	4	ND	ND	730 ¹	NO	NA	NO
Potassium	5000	1450	1200	3340	1430	4	4	1200	3340	NA	NO	NA	NO
Selenium	35	ND	2.2 B	ND	ND	0	4	ND	ND	182 ¹	NO	NA	NO
Silver	10	ND	ND	ND	ND	0	4	ND	ND	182 ¹	NO	NA	NO
Sodium	5000	22600	150000	54200	22600	4	4	22600	150000	NA	NO	NA	YES
Thallium	25	ND	ND	ND	ND	0	4	ND	ND	2.55 ¹	NO	NA	NO
Vanadium	50	ND	ND	ND	ND	0	4	ND	ND	36.5 ¹	NO	NA	NO
Zinc	60	ND	11.1	ND	ND	1	4	ND	11.1	11000 ¹	NO	NA	NO
Cyanide	10	ND	ND	ND	ND	0	4	ND	ND	730 ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, April 2006.

2 USEPA National Primary Drinking Water Standards, Winter 2004.

3 USEPA National Secondary Drinking Water Regulations, Winter 2004.

B Result estimated due to laboratory contamination

R Result rejected according to data validation guidelines

Table 6B. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)				Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW3	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Semi-Volatile Organic Compounds													
Benzaldehyde	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Phenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Bis(2-chloroethyl)ether	5	ND	ND	ND	ND	0	4	ND	ND	⁴	NO	NA	NO
2-Chlorophenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2-Methylphenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,2'-Oxybis(1-chloropropane)	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Acetophenone	5	ND	ND	ND	ND	0	4	ND	ND	²	NO	NA	NO
4-Methylphenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
N-Nitroso-di-n-propylamine	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Hexachloroethane	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Nitrobenzene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Isophorone	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2-Nitrophenol	5	ND	ND	ND	ND	0	4	ND	ND	²	NO	NA	NO
2,4-Dimethylphenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Bis(2-chloroethoxy)methane	5	ND	ND	ND	ND	0	4	ND	ND	⁵	NO	NA	NO
2,4-Dichlorophenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Naphthalene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4-Chloroaniline	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Hexachlorobutadiene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Caprolactam	80	ND	ND	ND	ND	0	4	ND	ND	²	NO	NA	NO
4-Chloro-3-methylphenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2-Methylnaphthalene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Hexachlorocyclopentadiene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,4,6-Trichlorophenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,4,5-Trichlorophenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
1,1'-Biphenyl	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2-Chloronaphthalene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2-Nitroaniline	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Dimethylphthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,6-Dinitrotoluene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Acenaphthylene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
3-Nitroaniline	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Acenaphthene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO

Table 6B. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)				Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW3	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
2,4-Dinitrophenol	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4-Nitrophenol	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Dibenzofuran	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,4-Dinitrotoluene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Diethylphthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Fluorene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4-Chlorophenyl-phenylether	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4-Nitroaniline	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4,6-Dinitro-2-methylphenol	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
N-Nitrosodiphenylamine	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
1,2,4,5-Tetrachlorobenzene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
4-Bromophenyl-phenylether	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Hexachlorobenzene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Atrazine	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Pentachlorophenol	10	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Phenanthrene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Anthracene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Carbazole	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Di-n-butylphthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Fluoranthene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Pyrene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Butylbenzylphthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
3,3'-Dichlorobenzidine	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Benzo(a)anthracene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Chrysene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Bis(2-ethylhexyl)phthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Di-n-octylphthalate	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Benzo(b)fluoranthene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Benzo(k)fluoranthene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Benzo(a)pyrene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Indeno(1,2,3-cd)pyrene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Dibenzo(a,h)anthracene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO
2,3,4,6-Tetrachlorophenol	5	ND	ND	ND	ND	0	4	ND	ND	¹	NO	NA	NO

Table 6B. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)				Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW3	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Pesticides													
alpha-BHC	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
beta-BHC	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
delta-BHC	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
gamma-BHC (Lindane)	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Heptachlor	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Aldrin	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Heptachlor epoxide	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endosulfan I	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Dieldrin	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
4,4'-DDE	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endrin	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endosulfan II	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
4,4'-DDD	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endosulfan sulfate	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
4,4'-DDT	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Methoxychlor	0.5	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endrin Ketone	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Endrin aldehyde	0.1	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
alpha-Chlordane	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
gamma-Chlordane	0.05	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO
Toxaphene	5	ND	ND	ND	ND	0	4	ND	ND	1	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, April 2006.

2 USEPA National Primary Drinking Water Standards, Winter 2004.

3 USEPA National Secondary Drinking Water Regulations, Winter 2004.

Table 6C. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)	Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	Detects	Samples	Min (ug/L)	Max (ug/L)				
Specialty Biocide Compounds										
Acifluorfen (Blazer)	5	ND	0	1	ND	ND	NA	NO	NA	NO
Pendimethalin (Prowl)	0.04	NA	0	1	0	ND	NA	NO	NA	NO
Herbicide Compounds										
2,4-D	5	ND	0	1	ND	ND	365 ¹	NO	NA	NO
2,4-DB	10	ND	0	1	ND	ND	292 ¹	NO	NA	NO
2,4,5-TP (Silvex)	1	ND	0	1	ND	ND	292 ¹	NO	NA	NO
2,4,5-T	1	ND	0	1	ND	ND	365 ¹	NO	NA	NO
Dalapon	5	ND	0	1	ND	ND	1100 ¹	NO	NA	NO
Dicamba	1	ND	0	1	ND	ND	1100 ¹	NO	NA	NO
Dichloroprop	5	ND	0	1	ND	ND	NA	NO	NA	NO
Dinoseb	2.5	ND	0	1	ND	ND	36.5 ¹	NO	NA	NO
Picloram	2.5	ND	0	1	ND	ND	500 ²	NO	NA	NO
Wet Chemistry Compounds										
Formaldehyde	40	NA	0	1	0	ND	7,300 ¹	NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, April 2006.

2 USEPA National Primary Drinking Water Standards, Winter 2004.

3 USEPA National Secondary Drinking Water Regulations, Winter 2004.

Table 6D. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Volatile Organic Compounds												
Dichlorodifluoromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Chloromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Vinyl chloride	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Bromomethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Chloroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Trichlorofluoromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1-Dichloroethene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Acetone	10	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Carbon disulfide	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Methyl acetate	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Methylene chloride	6.1	3.3 B	3.1 B	ND	0	3	ND	ND	4.1 ¹	NO	NA	NO
trans-1,2-Dichloroethene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Methyl tert-butyl ether	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1-Dichloroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
cis-1,2-Dichloroethene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
2-Butanone	10	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Bromochloromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Chloroform	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1,1-Trichloroethane	5	ND	3.4	ND	1	3	ND	3.4	1,700 ¹	NO	NA	NO
Cyclohexane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Carbon tetrachloride	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Benzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2-Dichloroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,4-Dioxane	100	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Trichloroethene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Methylcyclohexane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2-Dichloropropane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Bromodichloromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
cis-1,3-Dichloropropene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
4-Methyl-2-pentanone	10	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Toluene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
trans-1,3-Dichloropropene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1,2-Trichloroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Tetrachloroethene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO

Table 6D. Occurrence, Distribution and Selection of COC's
Public Supply Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		PW2	PW4	PW6 (FD of PW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
2-Hexanone	10	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Dibromochloromethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2-Dibromoethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Chlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Ethylbenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
o-Xylene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
m,p-Xylene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Styrene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Bromoform	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
Isopropylbenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,3-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,4-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2-Dibromo-3-chloropropane	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2,4-Trichlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO
1,2,3-Trichlorobenzene	5	ND	ND	ND	0	3	ND	ND		NO	NA	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, April 2006.

2 USEPA National Primary Drinking Water Standards, Winter 2004.

3 USEPA National Secondary Drinking Water Regulations, Winter 2004

B Result estimated due to laboratory contamination

R Result rejected according to data validation guidelines

Table 7A. Occurrence, Distribution and Selection of COC's Groundwater Monitoring Wells Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																									
COPC	CRDL	Concentration (ug/L)																Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-1A	MW-1D	MW-2	MW-2D	MW-3AR	MW-4	MW-5A	MW-7	MW-8	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP8	Detects	Samples	Min (ug/L)	Max (ug/L)				
Inorganics																									
Aluminum	200	18100	610	10600	22500	2940	6430	5470	158	2490	6510	11200	12400	78300	24000	409	28500	16	16	158	78300	50 ³	YES	610	YES
Antimony	60	2.7	ND	ND	ND	2.3	ND	ND	ND	4.6	ND	ND	ND	ND	ND	ND	ND	3	16	ND	4.6	14.6 ¹	NO	ND	NO
Arsenic	10	19.7	ND	5.2	16.4	ND	4.4	6.9	15	48.2	4.7	17.2	61.2	132	13.6	ND	26.1	13	16	ND	132	0.045 ¹	YES	ND	YES
Barium	200	203	82.4	241	350	110	188	140	300	604	164	130	621	1090	492	79.5	662	16	16	79.5	1090	7300 ¹	NO	82.4	YES
Beryllium	5	0.77	ND	0.76 B	1.5	0.26 B	0.21 B	ND	0.43 B	0.96 B	0.39	0.6	0.55	5	1.3	ND	2.1	8	16	ND	5	73 ¹	NO	ND	YES
Cadmium	5	ND	ND	0.43	0.57	ND	ND	ND	ND	0.83	ND	ND	0.79	7.4	ND	ND	0.98	6	16	ND	7.4	18 ¹	NO	ND	YES
Calcium	5000	43500	27400	75500	62900	43400	57800	39300	47400	34300	56800	39700	159000	315999	60800	60400	97400	16	16	27400	315999	NA	NO	27400	YES
Chromium	10	27.1	4.5	38.5	34.3	16.2	12.8	23.8	1.5	4.5	12	17.8	22.9	107	36.7	ND	53.2	15	16	ND	107	55000 ¹	NO	4.5	YES
Cobalt	50	14.7	1.4	13	21.8	4	16.7	8.6	0.98	23.1	5.3	33.5	13.1	108	21.4	ND	28.5	15	16	ND	108	NA	NO	1.4	YES
Copper	25	38.3	ND	24	46.7	13.4	12.1	19.3	ND	25.5	13.2	31.5	61.1	422	62.9	ND	52.7	13	16	ND	422	1460 ¹	NO	ND	YES
Iron	100	46300	5320	27900	53000	7830	18600	16000	20900	308001	18900	30800	56400	207000	49200	1390	80900	16	16	1390	308001	11000 ¹	YES	5320	YES
Lead	10	21.7	ND	15.4	25.3	9.7	5.9	15.6	ND	8.9	5.7	21.2	39.9	154	31.7	ND	41.9	13	16	ND	154	15 ²	YES	ND	YES
Magnesium	5000	20600	10400	19800	16200	14000	16900	15100	10800	8570	16500	12900	45900	131001	15000	11600	14700	16	16	8570	131001	NA	NO	10400	YES
Manganese	15	868	141	5400	1450	286	2360	404	3230	40100	1620	2300	3820	7960	1150	3520	1960	16	16	141	40100	730 ¹	YES	141	YES
Mercury	0.2	0.11 B	0.06 B	0.17 B	0.21 B	0.19 B	0.083 B	0.25 B	ND	0.037	0.1 B	0.14 B	0.23 B	0.35	0.11 B	0.045 B	0.18 B	2	16	ND	0.35	2 ²	NO	0.06 B	NO
Nickel	40	37.6	5.7	44	40.4	57.9	20.4	91.8	2.1	107	19.7	54.8	34.2	183	49.2	4.2	62.2	16	16	2.1	183	730 ¹	NO	5.7	YES
Potassium	5000	3480	1580	3280	4340	2890	6200	2930	7640	3540	4850	3330	4640	9710	4760	2120	4720	16	16	1580	9710	NA	NO	1580	YES
Selenium	35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	182 ¹	NO	ND	NO
Silver	10	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	1	16	ND	1.5	182 ¹	NO	ND	NO
Sodium	5000	42900	7430	36900	29300	21500	31800	21400	38900	14700	30400	7020	8170	5420	7710	35100	13800	16	16	5420	42900	NA	NO	7430	YES
Thallium	25	ND	4.8 B	ND	ND	ND	ND	ND	ND	10.5	ND	ND	ND	7.3 B	ND	ND	ND	1	16	ND	10.5	2.55 ¹	YES	4.8 B	NO
Vanadium	50	33	1.4 B	20.9	41.3	6.4	12.7	11.7	0.44	8.2	13	21	27.2	122	37.5	1.3	50.2	15	16	0.44	122	36.5 ¹	YES	1.4 B	NO
Zinc	60	113	9	76.8	109	128	44.4	72.7	37.1	123	44	73.8	132	627	154	14.6	223	16	16	9	627	11000 ¹	NO	9	YES
Cyanide	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	730 ¹	NO	ND	NO

NOTES:
 ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).
 NA Not Applicable or available.
 CRDL Contract Required Detection Limit
 1 USEPA Region III, Tap Water RBCs, April 2006.
 2 USEPA National Primary Drinking Water Standards, Winter 2004.
 3 USEPA National Secondary Drinking Water Regulations, Winter 2004.
 B Result estimated due to laboratory contamination.
 R Result rejected according to data validation guidelines.

Table 7B. Occurrence, Distribution and Selection of COC's Groundwater Monitoring Wells Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																											
COPC	CRDL	Concentration (ug/L)																Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?		
		MW-1A	MW-1D	MW-2	MW-2D	MW-3AR	MW-4	MW-5A	MW-7	MW-8	MW-MP1	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP8	Detects	Samples	Min (ug/L)					Max (ug/L)	
Semi-Volatile Organic Compounds																											
Benzaldehyde	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Phenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Bis(2-chloroethyl)ether	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	4	NO	ND	NO	
2-Chlorophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2-Methylphenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,2'-Oxybis(1-chloropropane)	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Acetophenone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	2	NO	ND	NO	
4-Methylphenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
N-Nitroso-di-n-propylamine	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Hexachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Nitrobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Isophorone	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2-Nitrophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	2	NO	ND	NO	
2,4-Dimethylphenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Bis(2-chloroethoxy)methane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	5	NO	ND	NO	
2,4-Dichlorophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Naphthalene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4-Chloroaniline	5	ND	ND	ND	ND	ND	ND	ND	140	ND	NA	ND	ND	ND	ND	ND	ND	ND	1	16	ND	140	146	1	NO	ND	YES
Hexachlorobutadiene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Caprolactam	80	ND	ND	ND	ND	ND	ND	ND	200	ND	NA	80	ND	ND	ND	ND	ND	ND	2	16	ND	200	18,000	2	NO	ND	YES
4-Chloro-3-methylphenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2-Methylnaphthalene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Hexachlorocyclopentadiene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,4,6-Trichlorophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,4,5-Trichlorophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
1,1'-Biphenyl	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2-Chloronaphthalene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2-Nitroaniline	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Dimethylphthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,6-Dinitrotoluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Acenaphthylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
3-Nitroaniline	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Acenaphthene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,4-Dinitrophenol	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4-Nitrophenol	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Dibenzofuran	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
2,4-Dinitrotoluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Diethylphthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Fluorene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4-Chlorophenyl-phenylether	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4-Nitroaniline	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4,6-Dinitro-2-methylphenol	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
N-Nitrosodiphenylamine	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
1,2,4,5-Tetrachlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
4-Bromophenyl-phenylether	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Hexachlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Atrazine	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Pentachlorophenol	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Phenanthrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Anthracene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Carbazole	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Di-n-butylphthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Fluoranthene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Pyrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	
Butylbenzylphthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND	1	NO	ND	NO	

Table 7B. Occurrence, Distribution and Selection of COC's Groundwater Monitoring Wells Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																											
COPC	CRDL	Concentration (ug/L)																	Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?	
		MW-1A	MW-1D	MW-2	MW-2D	MW-3AR	MW-4	MW-5A	MW-7	MW-8	MW-MP1	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP8	Detects	Samples	Min (ug/L)	Max (ug/L)					
3,3'-Dichlorobenzidine	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Benzo(a)anthracene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Chrysene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Bis(2-ethylhexyl)phthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Di-n-octylphthalate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Benzo(b)fluoranthene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Benzo(k)fluoranthene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Benzo(a)pyrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Indeno(1,2,3-cd)pyrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Dibenzo(a,h)anthracene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Benzo(g,h,i)perylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
2,3,4,6-Tetrachlorophenol	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	0	16	ND	ND		¹	NO	ND	NO
Pesticides																											
4,4'-DDE	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		¹	NO	ND	NO
Endrin	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		¹	NO	ND	NO
Endrin Ketone	0.1	ND	ND	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	0.07	NA		NO	ND	NO
Endosulfan II	0.1	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	0.22	220	¹	NO	ND	YES
4,4'-DDD	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		¹	NO	ND	NO
Endosulfan sulfate	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		¹	NO	ND	NO
4,4'-DDT	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		¹	NO	ND	NO
Methoxychlor	0.5	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	0.15	182	¹	NO	ND	NO

NOTES:
 ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).
 NA Not Applicable or available.
 CRDL Contract Required Detection Limit
 1 USEPA Region III, Tap Water RBCs, April 2006.
 2 USEPA National Primary Drinking Water Standards, Winter 2004.
 3 USEPA National Secondary Drinking Water Regulations, Winter 2004.
 BG Background sample is site specific upgradient groundwater monitoring well MW-1D

Table 7C. Occurrence, Distribution and Selection of COC's
Groundwater Monitoring Wells
Thiokol-Specialty Chemical Division CERCLIS Site
Newell, Hancock County, West Virginia

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-1D	MW-2D	MW-7	Detects	Samples	Min (ug/L)	Max (ug/L)				
Specialty Biocide Compounds												
Acifluorfen (Blazer)	5	ND	ND	1.1	1	3	ND	1.1	NA	NO	ND	NO
Pendimethalin (Prowl)	0.04	ND	ND	NA	0	3	ND	ND	NA	NO	ND	NO
Herbicide Compounds												
2,4-D	5	ND	ND	ND	0	3	ND	ND	365 ¹	NO	ND	NO
2,4-DB	10	ND	ND	2.2	1	3	ND	2.2	292 ¹	NO	ND	NO
2,4,5-TP (Silvex)	1	ND	ND	ND	0	3	ND	ND	292 ¹	NO	ND	NO
2,4,5-T	1	ND	ND	ND	0	3	ND	ND	365 ¹	NO	ND	NO
Dalapon	5	ND	ND	ND	0	3	ND	ND	1100 ¹	NO	ND	NO
Dicamba	1	ND	ND	ND	0	3	ND	ND	1100 ¹	NO	ND	NO
Dichloroprop	5	ND	ND	ND	0	3	ND	ND	NA	NO	ND	NO
Dinoseb	2.5	ND	ND	ND	0	3	ND	ND	36.5 ¹	NO	ND	NO
Picloram	2.5	ND	ND	ND	0	3	ND	ND	500 ²	NO	ND	NO
Wet Chemistry Compounds												
Formaldehyde	40	ND	0.11	NA	1	3	ND	0.11	7,300 ¹	NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL)

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, April 2006.

2 USEPA National Primary Drinking Water Standards, Winter 2004.

BG Background sample is site specific upgradient groundwater monitoring well MW-1I

Table 7D. Occurrence, Distribution and Selection of COC's Groundwater Monitoring Wells Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																										
COPC	CRDL	Concentration (ug/L)																Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?	
		MW-1A	MW-1D	MW-2	MW-2D	MW-3AR	MW-4	MW-5A	MW-7	MW-8	MW-MP1	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP8	Detects	Samples	Min (ug/L)					Max (ug/L)
Volatile Organic Compounds																										
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Vinyl chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Acetone	10	ND	ND	ND	ND	ND	7 B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Carbon disulfide	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Methyl acetate	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Methylene chloride	6.1	3.2 B	ND	ND	2.7 B	2.6 B	ND	ND	3.1 B	ND	ND	4.2 B	ND	ND	ND	4.5 B	3 B	ND	0	17	ND	ND	4.1 ¹	NO	ND	NO
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Methyl tert-butyl ether	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
cis-1,2-Dichloroethene	5	ND	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	3.3	55 ¹	NO	ND	NO
2-Butanone	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Bromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Chloroform	5	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	5.2	0.15 ¹	YES	5.2	NO
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Cyclohexane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Benzene	5	ND	ND	ND	ND	ND	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	4.1	0.336 ¹	YES	ND	NO
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,4-Dioxane	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Trichloroethene	5	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	ND	2	17	ND	31	0.026 ¹	YES	ND	YES
Methylcyclohexane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
4-Methyl-2-pentanone	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
2-Hexanone	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Chlorobenzene	5	ND	ND	19	6.7	ND	ND	ND	49	ND	ND	ND	ND	ND	ND	ND	7.1	ND	4	17	ND	49	90 ¹	NO	ND	YES
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
o-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
m,p-Xylene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Bromoform	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	17	ND	24	660 ¹	NO	ND	YES
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2-Dibromo-3-chloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO
1,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	17	ND	ND		NO	ND	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).
NA Not Applicable or available.

Table 7D. Occurrence, Distribution and Selection of COC's Groundwater Monitoring Wells Thiokol-Specialty Chemical Division CERCLIS Site Newell, Hancock County, West Virginia																									
COPC	CRDL	Concentration (ug/L)																Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-1A	MW-1D	MW-2	MW-2D	MW-3AR	MW-4	MW-5A	MW-7	MW-8	MW-MP1	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP8	Detects	Samples	Min (ug/L)				

CRDL Contract Required Detection Limit
1 USEPA Region III, Tap Water RBCs, April 2006.
2 USEPA National Primary Drinking Water Standards, Winter 2004.
3 USEPA National Secondary Drinking Water Regulations, Winter 2004.
B Result estimated due to laboratory contamination.
R Result rejected according to data validation guidelines.
BG Background sample is site specific upgradient groundwater monitoring well MW-1D

Appendix 1.
EDR REPORT



The EDR Radius Map with GeoCheck®

**Thiokol-Specialty Chemicals Div.
7743 Ohio River Blvd
New Cumberland, WV 26047**

Inquiry Number: 1779660.1s

October 20, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

7743 OHIO RIVER BLVD
NEW CUMBERLAND, WV 26047

COORDINATES

Latitude (North):	40.576500 - 40° 34' 35.4"
Longitude (West):	80.650400 - 80° 39' 1.4"
Universal Transverse Mercator:	Zone 17
UTM X (Meters):	529590.1
UTM Y (Meters):	4491594.0
Elevation:	769 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	40080-E6 WELLSVILLE, OH
Most Recent Revision:	1998

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL RECOVERY	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information

EXECUTIVE SUMMARY

RCRA-SQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

WV SHWS	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
OH SHWS	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
OH DERR	Division of Emergency & Remedial Response's Database
OH TOWNGAS	DERR Towngas Database
OH MSL	Master Sites List
WV SWF/LF	List of M.S.W. Landfills/Transfer Station Listing
OH SWF/LF	Licensed Solid Waste Facilities
OH HIST LF	Old Solid Waste Landfill
WV LUST	Leaking Underground Storage Tanks
OH LUST	Leaking Underground Storage Tank File
OH UNREG LTANKS	Ohio Leaking UST File
WV UST	Underground Storage Tank Database
OH UST	Underground Storage Tank Tank File
OH ARCHIVE UST	Archived Underground Storage Tank Sites
WV SPILLS	Spills Listing
OH Spills	Emergency Response Database
OH ENG CONTROLS	Sites with Engineering Controls
WV INST CONTROL	Sites with Institutional Controls
OH INST CONTROL	Sites with Institutional Engineering Controls
WV VCP	Voluntary Remediation Sites
OH VCP	Voluntary Action Program Sites
WV DRYCLEANERS	Listing of Drycleaner Locations
OH DRYCLEANERS	Drycleaner Facility Listing
OH BROWNFIELDS	Ohio Brownfield Inventory
WV BROWNFIELDS	Brownfields Sites Listing
WV CDL	Drug Lab Site Locations
OH CDL	Clandestine Drug Lab Locations

EXECUTIVE SUMMARY

WV NPDES..... Wastewater Discharge Permits Listing
OH NPDES..... NPDES General Permit List
WV AIRS..... Permitted Facility and Emissions Listing
OH USD..... Urban Setting Designation Sites
OH HIST INST CONTROLS... Institutional Controls Database
OH HIST ENG CONTROLS... Operation & Maintenance Agreements Database
OH HIST USD..... Urban Setting Designations Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

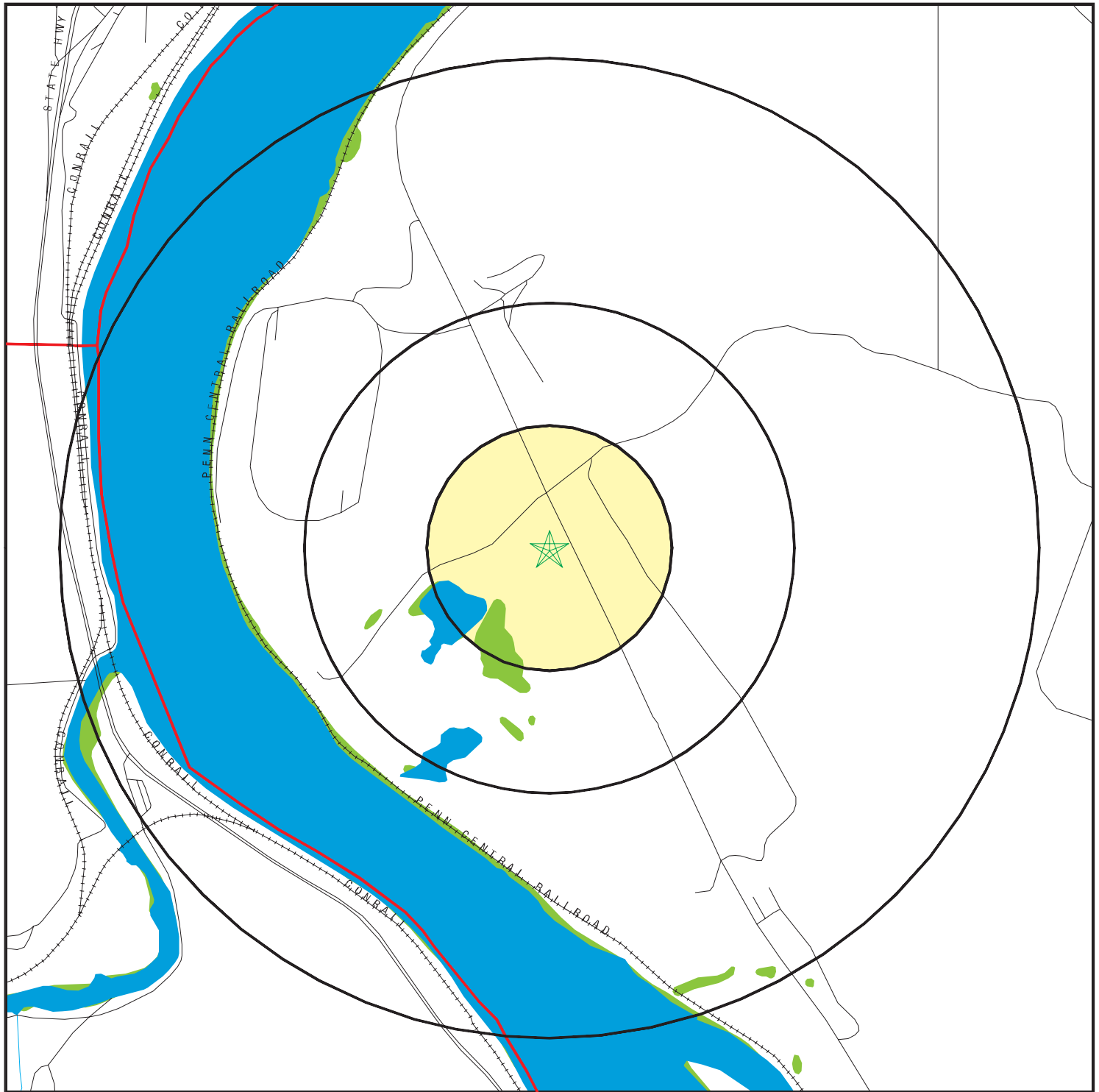
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
THIOKOL-SPECIALTY CHEMICALS DIV	CERCLIS, RCRA-SQG, FINDS, RCRA-TSDF
OHIO RIVER M.P. 54.4 SPILL	CERCLIS, FINDS
SHILOH LANDFILL SITE	CERC-NFRAP
QUAKER STATE - OHIO RIVER M.P. 47	CERC-NFRAP
OHIO RIVER M.P. 51	CERC-NFRAP
NEWELL SPECIALTY CHEMICALS	FINDS, RCRA-LQG, CERC-NFRAP
SHILOH RIVER LANDFILL	WV SWF/LF
BYERS MARATHON	WV UST
CRESCENT BRICK CO INC	WV UST
LEONARD WATSON	WV UST
BOBBY DS	WV UST
DANIEL CLARK DBA TURLEY'S STORE	WV UST
GLOBE SERVICES INC	WV UST
STANDARD AGGREGATES - IRON CITY PLANT	RCRA-SQG, FINDS, WV UST
SUPERAMERICA 5231	WV UST
RESCO PRODUCTS INCORPORATED	RCRA-SQG, FINDS
FRYERS BP	RCRA-SQG, FINDS
HANCOCK COUNTY BUS GARAGE	RCRA-SQG, FINDS
CE MINERALS PROCESSING INC	RCRA-SQG, FINDS
MARSH BELLOFRAM CORPORATION	RCRA-SQG, FINDS

OVERVIEW MAP - 1779660.1s



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

⚙ Manufactured Gas Plants

☒ National Priority List Sites

☒ Landfill Sites

☒ Dept. Defense Sites

☒ Indian Reservations BIA

↗ County Boundary

↗ Oil & Gas pipelines

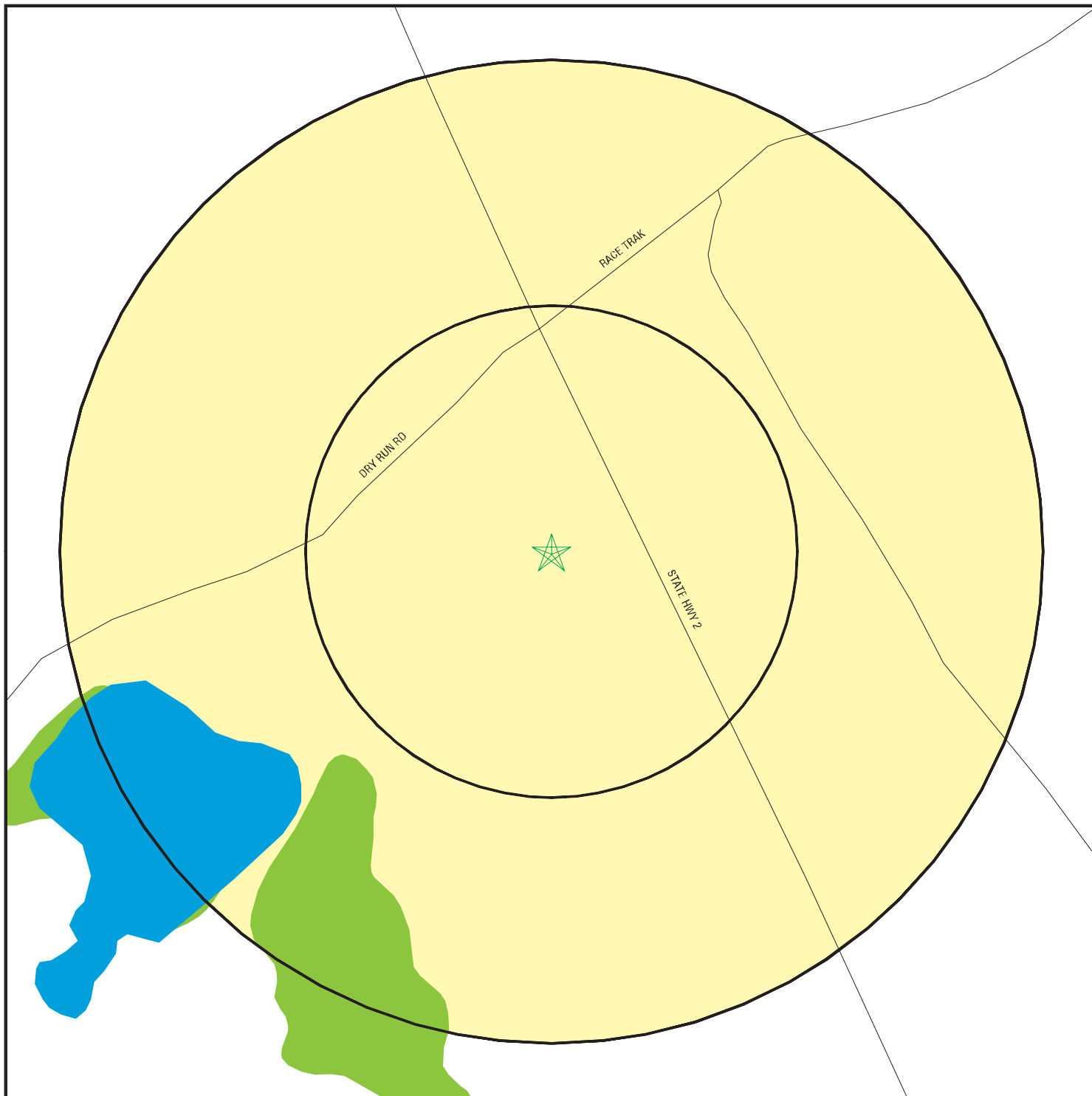
■ National Wetland Inventory

0 1/4 1/2 1 Miles

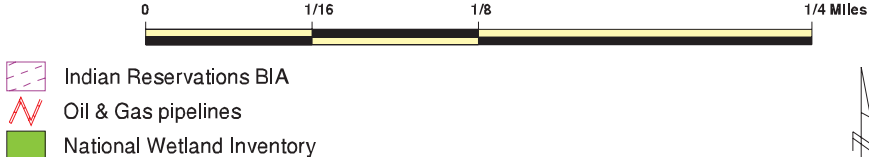
SITE NAME: Thiokol-Specialty Chemicals Div.
ADDRESS: 7743 Ohio River Blvd
New Cumberland WV 26047
LAT/LONG: 40.5765 / 80.6504

CLIENT: Triad Engineering
CONTACT: Lydia Work
INQUIRY #: 1779660.1s
DATE: October 20, 2006 1:11 pm

DETAIL MAP - 1779660.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚙ Manufactured Gas Plants
- ⚠ Sensitive Receptors
- 🚧 National Priority List Sites
- 🗑 Landfill Sites
- 🏢 Dept. Defense Sites



- 🏠 Indian Reservations BIA
- 🛢 Oil & Gas pipelines
- 🌿 National Wetland Inventory

SITE NAME: Thiokol-Specialty Chemicals Div.
 ADDRESS: 7743 Ohio River Blvd
 New Cumberland WV 26047
 LAT/LONG: 40.5765 / 80.6504

CLIENT: Triad Engineering
 CONTACT: Lydia Work
 INQUIRY #: 1779660.1s
 DATE: October 20, 2006 1:11 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>FEDERAL RECORDS</u>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY	TP		NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS	TP		NR	NR	NR	NR	NR	0
HMIRS	TP		NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
<u>STATE AND LOCAL RECORDS</u>								
WV State Haz. Waste		N/A	N/A	N/A	N/A	N/A	N/A	N/A
OH State Haz. Waste		N/A	N/A	N/A	N/A	N/A	N/A	N/A
OH DERR		1.000	0	0	0	0	NR	0
OH TOWNGAS		1.000	0	0	0	0	NR	0
OH MSL		1.000	0	0	0	0	NR	0
WV State Landfill		0.500	0	0	0	NR	NR	0
OH State Landfill		0.500	0	0	0	NR	NR	0
OH HIST LF		0.500	0	0	0	NR	NR	0
WV LUST		0.500	0	0	0	NR	NR	0
OH LUST		0.500	0	0	0	NR	NR	0
OH UNREG LTANKS		0.500	0	0	0	NR	NR	0
WV UST		0.250	0	0	NR	NR	NR	0
OH UST		0.250	0	0	NR	NR	NR	0
OH ARCHIVE UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
WV SPILLS	TP	TP	NR	NR	NR	NR	NR	0
OH Spills	TP	TP	NR	NR	NR	NR	NR	0
OH ENG CONTROLS		0.500	0	0	0	NR	NR	0
WV INST CONTROL		0.500	0	0	0	NR	NR	0
OH INST CONTROL		0.500	0	0	0	NR	NR	0
WV VCP		0.500	0	0	0	NR	NR	0
OH VCP		0.500	0	0	0	NR	NR	0
WV DRYCLEANERS		0.250	0	0	NR	NR	NR	0
OH DRYCLEANERS		0.250	0	0	NR	NR	NR	0
OH BROWNFIELDS		0.500	0	0	0	NR	NR	0
WV BROWNFIELDS		0.500	0	0	0	NR	NR	0
WV CDL	TP	TP	NR	NR	NR	NR	NR	0
OH CDL	TP	TP	NR	NR	NR	NR	NR	0
WV NPDES	TP	TP	NR	NR	NR	NR	NR	0
OH NPDES	TP	TP	NR	NR	NR	NR	NR	0
WV AIRS	TP	TP	NR	NR	NR	NR	NR	0
OH USD		0.500	0	0	0	NR	NR	0
OH HIST INST CONTROLS		0.500	0	0	0	NR	NR	0
OH HIST ENG CONTROLS		0.500	0	0	0	NR	NR	0
OH HIST USD		0.500	0	0	0	NR	NR	0
<u>TRIBAL RECORDS</u>								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
<u>EDR PROPRIETARY RECORDS</u>								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
HANCOCK COUNTY	S107420995	SHILOH RIVER LANDFILL	PO BOX 135		WV SWF/LF
NEW CUMBERLAND	1003866876	SHILOH LANDFILL SITE	ROUTE 2 & BALLANTYNE ROAD	26047	CERC-NFRAP
NEW CUMBERLAND	1004619402	RESCO PRODUCTS INCORPORATED	RT 2 NORTH CLIFTON STREET	26047	RCRA-SQG, FINDS
NEW CUMBERLAND	1004804549	FRYERS BP	RT 2 N 3M N OF WEIRTON	26047	RCRA-SQG, FINDS
NEW CUMBERLAND	U003435871	BYERS MARATHON	RT 2	26047	WV UST
NEW CUMBERLAND	U003546185	CRESCENT BRICK CO INC	RT 2 BOX 368	26047	WV UST
NEW CUMBERLAND	U003760560	LEONARD WATSON	RT 2 ADAMS ST	26047	WV UST
NEW CUMBERLAND	U003807306	BOBBY DS	RT 2 N	26047	WV UST
NEW CUMBERLAND	U003347930	DANIEL CLARK DBA TURLEY'S STORE	RT 3 BOX 135	26047	WV UST
NEW CUMBERLAND	1003866935	QUAKER STATE - OHIO RIVER M.P. 47	M.P. 47 OHIO RIVER	26047	CERC-NFRAP
NEW CUMBERLAND	1003072942	OHIO RIVER M.P. 54.4 SPILL	MILE POINT 54.4	26047	CERCLIS, FINDS
NEW CUMBERLAND	1003866953	OHIO RIVER M.P. 51	OHIO RIVER	26047	CERC-NFRAP
NEW CUMBERLAND	1004804558	HANCOCK COUNTY BUS GARAGE	ROCKY SIDE DR-.2M OFF ST RT 2	26047	RCRA-SQG, FINDS
NEWELL	1000204652	NEWELL SPECIALTY CHEMICALS	RTE 2	26050	FINDS, RCRA-LQG, CERC-NFRAP
NEWELL	1004804130	CE MINERALS PROCESSING INC	RT 2 3/4 MI SO OF NEWELL	26050	RCRA-SQG, FINDS
NEWELL	U003435872	GLOBE SERVICES INC	RT 2	26050	WV UST
NEWELL	1000338177	MARSH BELLOFRAM CORPORATION	ST RT 2	26050	RCRA-SQG, FINDS
NEWELL	1000333195	THIOKOL-SPECIALTY CHEMICALS DIV	STATE RTE 2	26050	CERCLIS, RCRA-SQG, FINDS, RCRA-TSDF
NEWELL	1000310347	STANDARD AGGREGATES - IRON CITY PLANT	W VA STATE ROUTE #2	26050	RCRA-SQG, FINDS, WV UST
NEWELL	U003435854	SUPERAMERICA 5231	WASHINGTON ST RT 2	26050	WV UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/05/2006	Source: EPA
Date Data Arrived at EDR: 08/02/2006	Telephone: N/A
Date Made Active in Reports: 09/12/2006	Last EDR Contact: 08/02/2006
Number of Days to Update: 41	Next Scheduled EDR Contact: 10/30/2006
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 07/05/2006	Source: EPA
Date Data Arrived at EDR: 08/02/2006	Telephone: N/A
Date Made Active in Reports: 09/12/2006	Last EDR Contact: 08/02/2006
Number of Days to Update: 41	Next Scheduled EDR Contact: 10/30/2006
	Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/05/2006	Source: EPA
Date Data Arrived at EDR: 08/02/2006	Telephone: N/A
Date Made Active in Reports: 09/12/2006	Last EDR Contact: 08/02/2006
Number of Days to Update: 41	Next Scheduled EDR Contact: 10/30/2006
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 06/19/2006
Date Data Arrived at EDR: 06/22/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 62

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 07/17/2006
Date Data Arrived at EDR: 08/02/2006
Date Made Active in Reports: 09/12/2006
Number of Days to Update: 41

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006	Source: EPA
Date Data Arrived at EDR: 06/28/2006	Telephone: 800-424-9346
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 09/28/2006
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/12/2006	Telephone: 202-260-2342
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 07/25/2006
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/23/2006
	Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/03/2006	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 07/19/2006	Telephone: 202-366-4555
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 10/18/2006
Number of Days to Update: 35	Next Scheduled EDR Contact: 01/15/2007
	Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2006	Telephone: 703-603-8905
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 09/07/2006
Number of Days to Update: 56	Next Scheduled EDR Contact: 10/02/2006
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2006	Telephone: 703-603-8905
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 09/07/2006
Number of Days to Update: 56	Next Scheduled EDR Contact: 10/02/2006
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004	Source: USGS
Date Data Arrived at EDR: 02/08/2005	Telephone: 703-692-8801
Date Made Active in Reports: 08/04/2005	Last EDR Contact: 08/11/2006
Number of Days to Update: 177	Next Scheduled EDR Contact: 11/06/2006
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 01/19/2006	Telephone: 202-528-4285
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 09/18/2006
Number of Days to Update: 33	Next Scheduled EDR Contact: 01/01/2007
	Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/10/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/13/2006	Telephone: 202-566-2777
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 09/11/2006
Number of Days to Update: 55	Next Scheduled EDR Contact: 12/11/2006
	Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 02/15/2005	Telephone: Varies
Date Made Active in Reports: 04/25/2005	Last EDR Contact: 09/18/2006
Number of Days to Update: 69	Next Scheduled EDR Contact: 10/23/2006
	Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/10/2006	Source: EPA
Date Data Arrived at EDR: 07/21/2006	Telephone: 703-416-0223
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 10/02/2006
Number of Days to Update: 47	Next Scheduled EDR Contact: 01/01/2007
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005	Source: Department of Energy
Date Data Arrived at EDR: 11/28/2005	Telephone: 505-845-0011
Date Made Active in Reports: 01/30/2006	Last EDR Contact: 09/05/2006
Number of Days to Update: 63	Next Scheduled EDR Contact: 12/18/2006
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 07/20/2006	Source: EPA
Date Data Arrived at EDR: 07/21/2006	Telephone: 202-564-6064
Date Made Active in Reports: 08/22/2006	Last EDR Contact: 10/02/2006
Number of Days to Update: 32	Next Scheduled EDR Contact: 01/01/2007
	Data Release Frequency: Quarterly

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004	Source: EPA
Date Data Arrived at EDR: 06/22/2006	Telephone: 202-566-0250
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 09/22/2006
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/18/2006
	Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 10/18/2006
Number of Days to Update: 46	Next Scheduled EDR Contact: 01/15/2007
	Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/14/2006	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 07/18/2006	Telephone: 202-566-1667
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 09/18/2006
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/18/2006
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 07/14/2006	Source: EPA
Date Data Arrived at EDR: 07/18/2006	Telephone: 202-566-1667
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 09/18/2006
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/18/2006
	Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004	Source: EPA
Date Data Arrived at EDR: 05/11/2006	Telephone: 202-564-4203
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 10/16/2006
Number of Days to Update: 11	Next Scheduled EDR Contact: 01/15/2007
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/21/2006	Telephone: 202-564-5088
Date Made Active in Reports: 05/11/2006	Last EDR Contact: 07/17/2006
Number of Days to Update: 20	Next Scheduled EDR Contact: 10/16/2006
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/07/2006	Source: EPA
Date Data Arrived at EDR: 08/09/2006	Telephone: 202-566-0500
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 08/09/2006
Number of Days to Update: 28	Next Scheduled EDR Contact: 11/06/2006
	Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/10/2006	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 07/20/2006	Telephone: 301-415-7169
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 10/02/2006
Number of Days to Update: 48	Next Scheduled EDR Contact: 01/01/2007
	Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/16/2006	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 06/28/2006	Telephone: 303-231-5959
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 09/27/2006
Number of Days to Update: 56	Next Scheduled EDR Contact: 12/25/2006
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/21/2006	Source: EPA
Date Data Arrived at EDR: 07/25/2006	Telephone: N/A
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 10/02/2006
Number of Days to Update: 43	Next Scheduled EDR Contact: 01/01/2007
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 09/05/2006
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/04/2006
	Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003	Source: EPA/NTIS
Date Data Arrived at EDR: 06/17/2005	Telephone: 800-424-9346
Date Made Active in Reports: 08/04/2005	Last EDR Contact: 10/20/2006
Number of Days to Update: 48	Next Scheduled EDR Contact: 12/11/2006
	Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

WV SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: N/A	Telephone: 304-926-0455
Date Made Active in Reports: N/A	Last EDR Contact: 09/18/2006
Number of Days to Update: N/A	Next Scheduled EDR Contact: 12/18/2006
	Data Release Frequency: N/A

OH SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A	Source: Ohio EPA
Date Data Arrived at EDR: N/A	Telephone: 614-644-2924
Date Made Active in Reports: N/A	Last EDR Contact: 09/05/2006
Number of Days to Update: N/A	Next Scheduled EDR Contact: 12/04/2006
	Data Release Frequency: N/A

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OH DERR: Division of Emergency & Remedial Response's Database

The DERR listings contains sites from all of Ohio that are in the Division of Emergency and Remedial Response (DERR) database, which is an index of sites for which our district offices maintain files. The database is NOT a record of contaminated sites or sites suspected of contamination. Not all sites in the database are contaminated, and a site's absence from the database does not imply that it is uncontaminated.

Date of Government Version: 09/12/2006
Date Data Arrived at EDR: 09/13/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 12

Source: Ohio EPA, Div. of Emergency and Remedial Response
Telephone: 614-644-3538
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Semi-Annually

OH TOWNGAS: DERR Towngas Database

The database includes 82 very old sites (circa 1895) which produced gas from coal for street lighting. Most visual evidence of these sites has disappeared, however the potential for buried coal tar remains. The database is no longer in active use.

Date of Government Version: 07/28/1992
Date Data Arrived at EDR: 02/21/2003
Date Made Active in Reports: 03/05/2003
Number of Days to Update: 12

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 02/12/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OH MSL: Master Sites List

Ohio EPA no longer maintains or publishes the MSL, which was a list of sites with known or suspected contamination. Please be advised that this report does not constitute a determination that any site identified in the report is or may be contaminated.

Date of Government Version: 03/01/1999
Date Data Arrived at EDR: 03/29/1999
Date Made Active in Reports: 04/21/1999
Number of Days to Update: 23

Source: Ohio Environmental Protection Agency
Telephone: 614-644-2068
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

WV SWF/LF: List of M.S.W. Landfills/Transfer Station Listing

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/17/2006
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/16/2006
Number of Days to Update: 40

Source: Division of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 08/09/2006
Next Scheduled EDR Contact: 10/23/2006
Data Release Frequency: Varies

OH SWF/LF: Licensed Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/18/2006
Date Data Arrived at EDR: 08/18/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 38

Source: Ohio Environmental Protection Agency
Telephone: 614-644-2621
Last EDR Contact: 08/07/2006
Next Scheduled EDR Contact: 11/06/2006
Data Release Frequency: Annually

OH HIST LF: Old Solid Waste Landfill

A list of about 1200 old abandoned dumps or landfills. This database was developed from Ohio EPA staff notebooks and other information dating from the mid-1970s

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/1980
Date Data Arrived at EDR: 07/01/2003
Date Made Active in Reports: 07/17/2003
Number of Days to Update: 16

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 06/26/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WV LUST: Leaking Underground Storage Tanks

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/07/2006
Date Data Arrived at EDR: 07/07/2006
Date Made Active in Reports: 08/08/2006
Number of Days to Update: 32

Source: Division of Environmental Protection
Telephone: 304-558-4253
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

OH LUST: Leaking Underground Storage Tank File

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/13/2006
Date Data Arrived at EDR: 09/14/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 11

Source: Department of Commerce
Telephone: 614-752-7924
Last EDR Contact: 09/14/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

OH UNREG LTANKS: Ohio Leaking UST File

A suspected or confirmed release of petroleum from a non-regulated UST.

Date of Government Version: 08/25/1999
Date Data Arrived at EDR: 08/19/2003
Date Made Active in Reports: 08/26/2003
Number of Days to Update: 7

Source: Department of Commerce
Telephone: 614-752-7938
Last EDR Contact: 08/01/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WV UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 07/11/2006
Date Made Active in Reports: 08/04/2006
Number of Days to Update: 24

Source: Division of Environmental Protection
Telephone: 304-759-0515
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Annually

OH UST: Underground Storage Tank Tank File

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/13/2006
Date Data Arrived at EDR: 09/14/2006
Date Made Active in Reports: 10/19/2006
Number of Days to Update: 35

Source: Department of Commerce
Telephone: 614-752-7938
Last EDR Contact: 09/14/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

OH ARCHIVE UST: Archived Underground Storage Tank Sites

Underground storage tank records that have been removed from the Underground Storage Tank database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/13/2006
Date Data Arrived at EDR: 09/14/2006
Date Made Active in Reports: 10/19/2006
Number of Days to Update: 35

Source: Department of Commerce, Division of State Fire Marshal
Telephone: 614-752-7938
Last EDR Contact: 09/14/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

WV SPILLS: Spills Listing

A listing of spills and releases reported to the Office of Emergency Services, they do not include any TRI information.

Date of Government Version: 08/19/2006
Date Data Arrived at EDR: 08/23/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 33

Source: Office of Emergency Services
Telephone: 304-558-5380
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

OH SPILLS: Emergency Response Database

Incidents reported to the Emergency Response Unit. The focus of the ER program is to minimize the impact on the environment from accidental releases, spills, and unauthorized discharges from any fixed or mobile sources. Incidents involving petroleum products, hazardous materials, hazardous waste, abandoned drums, or other materials which may pose as a pollution threat to the state's water, land, or air should be reported immediately. Not all incidents included in the database are actual SPILLS, they can simply be reported incidents.

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 17

Source: Ohio EPA
Telephone: 614-644-2084
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Varies

OH ENG CONTROLS: Sites with Engineering Controls

A database that tracks properties with engineering controls.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/18/2006
Date Made Active in Reports: 10/19/2006
Number of Days to Update: 31

Source: Ohio EPA
Telephone: 614-644-2324
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Semi-Annually

WV INST CONTROL: Sites with Institutional Controls

Sites that have institutional controls in place.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 07/05/2006
Date Made Active in Reports: 08/08/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 304-558-2508
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Varies

OH INST CONTROL: Sites with Institutional Engineering Controls

A database that tracks properties with institutional controls.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/18/2006
Date Made Active in Reports: 10/19/2006
Number of Days to Update: 31

Source: Ohio Environmental Protection Agency
Telephone: 614-644-2324
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Semi-Annually

WV VCP: Voluntary Remediation Sites

Sites involved in the Voluntary Remediation Program.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 07/05/2006
Date Made Active in Reports: 08/08/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 304-558-2745
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OH VCP: Voluntary Action Program Sites

Site involved in the Voluntary Action Program.

Date of Government Version: 09/05/2006

Date Data Arrived at EDR: 09/06/2006

Date Made Active in Reports: 09/25/2006

Number of Days to Update: 19

Source: Ohio EPA, Voluntary Action Program

Telephone: 614-644-1298

Last EDR Contact: 09/05/2006

Next Scheduled EDR Contact: 12/04/2006

Data Release Frequency: Semi-Annually

WV DRYCLEANERS: Listing of Drycleaner Locations

A listing of drycleaners which use perchloroethylene.

Date of Government Version: 09/13/2006

Date Data Arrived at EDR: 09/13/2006

Date Made Active in Reports: 09/25/2006

Number of Days to Update: 12

Source: Department of Environmental Protection

Telephone: 304-926-0475

Last EDR Contact: 09/11/2006

Next Scheduled EDR Contact: 12/11/2006

Data Release Frequency: Varies

OH DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaner facility locations.

Date of Government Version: 08/18/2006

Date Data Arrived at EDR: 08/23/2006

Date Made Active in Reports: 09/25/2006

Number of Days to Update: 33

Source: Ohio EPA

Telephone: 614-644-3469

Last EDR Contact: 08/07/2006

Next Scheduled EDR Contact: 10/23/2006

Data Release Frequency: Varies

OH BROWNFIELDS: Ohio Brownfield Inventory

A statewide brownfields inventory. A brownfield is an abandoned, idled or under-used industrial or commercial property where expansion or redevelopment is complicated by known or potential releases of hazardous substances and/or petroleum.

Date of Government Version: 07/12/2006

Date Data Arrived at EDR: 08/07/2006

Date Made Active in Reports: 09/25/2006

Number of Days to Update: 49

Source: Ohio EPA

Telephone: 614-644-3748

Last EDR Contact: 10/12/2006

Next Scheduled EDR Contact: 01/08/2007

Data Release Frequency: Varies

WV BROWNFIELDS: Brownfields Sites Listing

Brownfields are abandoned, idle or underused commercial or industrial properties, where the expansion or redevelopment is hindered by real or perceived contamination. Brownfields vary in size, location, age, and past use -- they can be anything from a five-hundred acre automobile assembly plant to a small, abandoned corner gas station.

Date of Government Version: 07/07/2006

Date Data Arrived at EDR: 08/07/2006

Date Made Active in Reports: 09/25/2006

Number of Days to Update: 49

Source: Department of Environmental Protection

Telephone: 304-926-0455

Last EDR Contact: 09/21/2006

Next Scheduled EDR Contact: 12/18/2006

Data Release Frequency: Varies

WV CDL: Drug Lab Site Locations

A listing of clandestine drug lab site locations.

Date of Government Version: 03/14/2006

Date Data Arrived at EDR: 03/16/2006

Date Made Active in Reports: 04/14/2006

Number of Days to Update: 29

Source: Department of Environmental Protection

Telephone: 304-926-0499

Last EDR Contact: 09/28/2006

Next Scheduled EDR Contact: 12/11/2006

Data Release Frequency: Varies

OH CDL: Clandestine Drug Lab Locations

A list of clandestine drug lab sites with environmental impact. This list is extracted from the SPILLS database based on the "product" type.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/22/2006
Date Data Arrived at EDR: 04/10/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 24

Source: Ohio EPA
Telephone: 614-644-2080
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Varies

WV NPDES: Wastewater Discharge Permits Listing

A listing of wastewater discharge permits.

Date of Government Version: 08/08/2006
Date Data Arrived at EDR: 08/10/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 304-926-0495
Last EDR Contact: 07/28/2006
Next Scheduled EDR Contact: 11/06/2006
Data Release Frequency: Varies

OH NPDES: NPDES General Permit List

General information regarding NPDES (National Pollutant Discharge Elimination System) permits.

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 17

Source: Ohio EPA
Telephone: 614-644-2031
Last EDR Contact: 09/08/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Semi-Annually

WV AIRS: Permitted Facility and Emissions Listing

Permitted facility and emissions information listing.

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 09/25/2006
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: 304-926-0499
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

OH USD: Urban Setting Designation Sites

A USD may be requested for properties participating in the VAP when there is no current or future use of the ground water by local residents for drinking, showering, bathing or cooking. In these areas, an approved USD would lower the cost of cleanup and promote economic redevelopment while still protecting public health and safety. If these USDs were to be approved, the ground water cleanup or response requirements for the areas could be lessened. The Ohio EPA director may approve a USD request based on a demonstration that the USD requirements are met and an evaluation of existing and future uses of ground water in the area. The Ohio EPA director's decision on approval or denial of the request is needed before cleanup requirements for the site can be determined.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/18/2006
Date Made Active in Reports: 10/19/2006
Number of Days to Update: 31

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Varies

OH HIST INST CONTROLS: Institutional Controls Database

"Institutional control" is a restriction that is recorded in the same manner as a deed which limits access to or use of the property such that exposure to hazardous substances or petroleum are effectively and reliably eliminated or mitigated. Examples of institutional controls include land and water use restrictions. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 28

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OH HIST ENG CONTROLS: Operation & Maintenance Agreements Database

Volunteers that complete a voluntary action that relies on the ongoing operation and maintenance (O&M) of an engineered control to make the site protective (e.g. cap systems and ground water treatment systems) must enter into a legally binding agreement with the Ohio EPA before the director issues a covenant not to sue. This O&M Agreement must describe how the remedy is constructed and how it will be monitored, maintained and repaired. It also lays out inspection opportunities for the agency. Companies must document that they have the financial capability to operate any remedy relied on, before the agency will agree to enter into the O&M Agreement. The statute requires that the agency be notified of any change in ownership. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/04/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 30

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

OH HIST USD: Urban Setting Designations Database

A USD may be requested for properties participating in the VAP when there is no current or future use of the ground water by local residents for drinking, showering, bathing or cooking. In these areas, an approved USD would lower the cost of cleanup and promote economic redevelopment while still protecting public health and safety. If these USDs were to be approved, the ground water cleanup or response requirements for the areas could be lessened. The Ohio EPA director may approve a USD request based on a demonstration that the USD requirements are met and an evaluation of existing and future uses of ground water in the area. The Ohio EPA director's decision on approval or denial of the request is needed before cleanup requirements for the site can be determined. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/25/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 16

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 08/11/2006
Next Scheduled EDR Contact: 11/06/2006
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 06/08/2006
Date Data Arrived at EDR: 06/09/2006
Date Made Active in Reports: 06/28/2006
Number of Days to Update: 19

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/21/2005
Date Made Active in Reports: 02/28/2005
Number of Days to Update: 38

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/21/2006
Next Scheduled EDR Contact: 11/20/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 06/06/2006	Source: EPA Region 8
Date Data Arrived at EDR: 06/09/2006	Telephone: 303-312-6271
Date Made Active in Reports: 07/28/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 06/08/2006	Source: EPA Region 10
Date Data Arrived at EDR: 06/09/2006	Telephone: 206-553-2857
Date Made Active in Reports: 07/28/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 06/01/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/23/2006	Telephone: 415-972-3372
Date Made Active in Reports: 08/02/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 40	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2006	Source: EPA Region 7
Date Data Arrived at EDR: 07/10/2006	Telephone: 913-551-7003
Date Made Active in Reports: 09/12/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 64	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 06/01/2006	Source: EPA Region 9
Date Data Arrived at EDR: 06/23/2006	Telephone: 415-972-3368
Date Made Active in Reports: 08/02/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 40	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 06/08/2006	Source: EPA Region 10
Date Data Arrived at EDR: 06/09/2006	Telephone: 206-553-2857
Date Made Active in Reports: 07/28/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004	Source: EPA Region 5
Date Data Arrived at EDR: 12/29/2004	Telephone: 312-886-6136
Date Made Active in Reports: 02/04/2005	Last EDR Contact: 08/21/2006
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 06/06/2006	Source: EPA Region 8
Date Data Arrived at EDR: 06/09/2006	Telephone: 303-312-6137
Date Made Active in Reports: 07/28/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 06/30/2006	Source: EPA Region 6
Date Data Arrived at EDR: 07/03/2006	Telephone: 214-665-7591
Date Made Active in Reports: 09/06/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

A listing of underground storage tank locations on Indian Land.

Date of Government Version: 06/08/2006	Source: EPA, Region 1
Date Data Arrived at EDR: 06/09/2006	Telephone: 617-918-1313
Date Made Active in Reports: 06/30/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 21	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 06/01/2006	Source: EPA Region 7
Date Data Arrived at EDR: 07/10/2006	Telephone: 913-551-7003
Date Made Active in Reports: 09/12/2006	Last EDR Contact: 08/21/2006
Number of Days to Update: 64	Next Scheduled EDR Contact: 11/20/2006
	Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 07/06/2006
Date Made Active in Reports: 08/01/2006
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/16/2006
Number of Days to Update: 47

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/30/2006
Next Scheduled EDR Contact: 11/27/2006
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 05/04/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 09/30/2005
Date Data Arrived at EDR: 05/09/2006
Date Made Active in Reports: 05/24/2006
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation

Telephone: (800) 823-6277

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Center List

Source: Office of Social Services

Telephone: 304-558-7980

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

THIOKOL-SPECIALTY CHEMICALS DIV.
7743 OHIO RIVER BLVD
NEW CUMBERLAND, WV 26047

TARGET PROPERTY COORDINATES

Latitude (North):	40.57650 - 40° 34' 35.4"
Longitude (West):	80.6504 - 80° 39' 1.4"
Universal Transverse Mercator:	Zone 17
UTM X (Meters):	529590.1
UTM Y (Meters):	4491594.0
Elevation:	769 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	40080-E6 WELLSVILLE, OH
Most Recent Revision:	1998

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

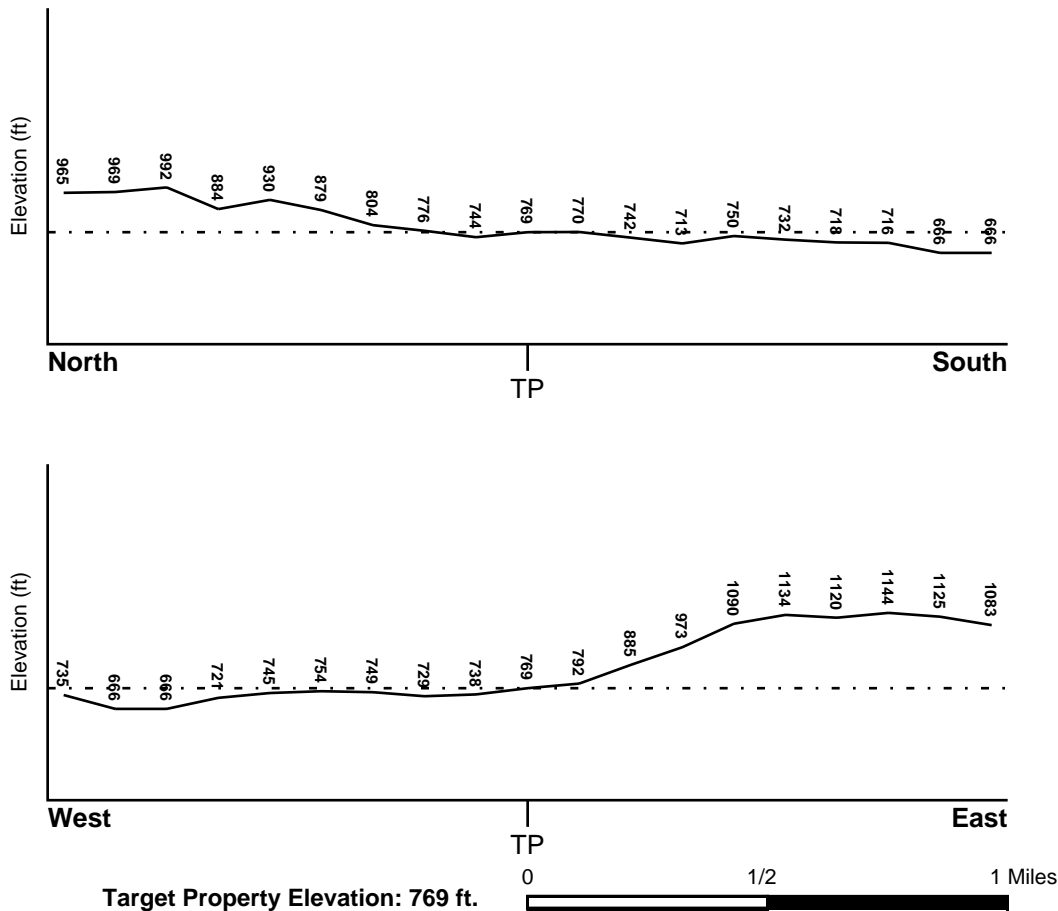
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u>	<u>FEMA Flood</u>
HANCOCK, WV	<u>Electronic Data</u>
	Not Available

Flood Plain Panel at Target Property: Not Reported

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic</u>
WELLSVILLE	<u>Data Coverage</u>
	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION</u>	<u>GENERAL DIRECTION</u>
Not Reported	<u>FROM TP</u>	<u>GROUNDWATER FLOW</u>

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Pennsylvanian
Series:	Des Moinesian Series
Code:	PP2 (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: channery - silt loam

Surficial Soil Types: channery - silt loam

Shallow Soil Types: silty clay loam
loam

Deeper Soil Types: stratified
weathered bedrock
loam
clay loam
gravelly - sandy loam

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
3	USGS2266464	1/4 - 1/2 Mile SW
6	USGS2266466	1/4 - 1/2 Mile West
8	USGS2266479	1/2 - 1 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
9	USGS2266467	1/2 - 1 Mile West
A10	USGS2266475	1/2 - 1 Mile WNW
A11	USGS2266474	1/2 - 1 Mile WNW
A12	USGS2266478	1/2 - 1 Mile WNW
B14	USGS2266462	1/2 - 1 Mile SSE
B15	USGS2266461	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

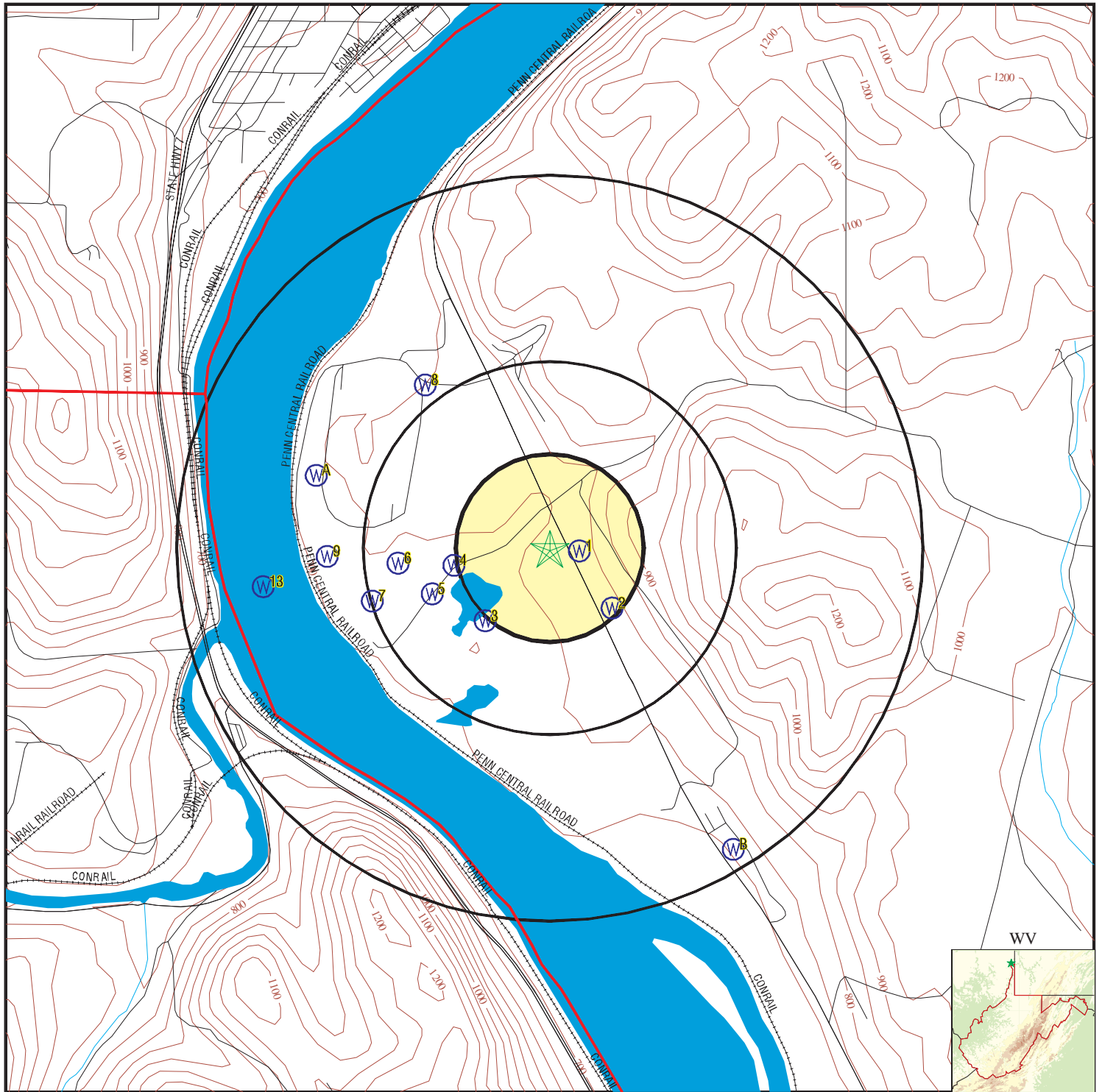
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	WVWELL0579	0 - 1/8 Mile East
2	WVWELL0580	1/8 - 1/4 Mile SE
4	WVWELL1669	1/4 - 1/2 Mile West
5	WVWELL0785	1/4 - 1/2 Mile WSW
7	WVWELL1302	1/4 - 1/2 Mile WSW
13	WVWELL0566	1/2 - 1 Mile West

PHYSICAL SETTING SOURCE MAP - 1779660.1s



SITE NAME: Thiokol-Specialty Chemicals Div.
 ADDRESS: 7743 Ohio River Blvd
 New Cumberland WV 26047
 LAT/LONG: 40.5765 / 80.6504

CLIENT: Triad Engineering
 CONTACT: Lydia Work
 INQUIRY #: 1779660.1s
 DATE: October 20, 2006 1:11 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
East
0 - 1/8 Mile
Higher

WV WELLS WVWELL0579

Id number:	1868	Pwsid:	WV9915036
Sys name:	TIFFANY'S CABARET		
Facility id:	746157		
Fac name:	TIFFANY'S CABARET		
City:	NEW CUMBERLAND	County:	HANCOCK
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	100	Sys type:	Non Community
Latitude:	40.576389	Longitude:	-80.648889
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Description:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Not Reported	Whp radius:	750
Prod gpd:	2500	Conv facto:	25
Calc pop:	100	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

2
SE
1/8 - 1/4 Mile
Higher

WV WELLS WVWELL0580

Id number:	1869	Pwsid:	WV9915037
Sys name:	PAR ONE FUN PARK		
Facility id:	746158		
Fac name:	PAR ONE FUN PARK		
City:	Not Reported	County:	HANCOCK
Act status:	I	Water type:	Groundwater
Owner type:	Local	Daily prod:	0
Sys popula:	100	Sys type:	Non Community
Latitude:	40.574167	Longitude:	-80.647222
Elevation:	0	Updated:	Y
Wdate:	051101		
Description:	Inactive on 03/27/01 list		
User initi:	RWW	Gudi statu:	No
Sourcetype:	Not Reported	Whp radius:	0
Prod gpd:	Not Reported	Conv facto:	Not Reported
Calc pop:	Not Reported	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

3
SW
1/4 - 1/2 Mile
Lower

FED USGS USGS2266464

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	403425080391401
Site name:	Hnc-0014		
Latitude:	403425		
Longitude:	0803914	Dec lat:	40.57367563
Dec lon:	-80.65368536	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	680.00	Altitude method:	M
Altitude accuracy:	20	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Alluvial or marine terrace		
Site type:	Ground-water other than Spring	Date construction:	19460101
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	58.0	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

4

West
1/4 - 1/2 Mile
Lower

WV WELLS VVWELL1669

Id number:	673	Pwsid:	WV9915019
Sys name:	NEWELL SPECIALITY CHEMICALS		
Facility id:	565552		
Fac name:	WELL 1		
City:	Not Reported	County:	HANCOCK
Act status:	I	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	36	Sys type:	Non Transient Non Community
Latitude:	40.575833	Longitude:	-80.655278
Elevation:	0	Updated:	Y
Wdate:	051101		
Description:	Inactive on 03/27/01 list		
User initi:	RWW	Gudi statu:	Not Reported
Sourcetype:	Not Reported	Whp radius:	0
Prod gpd:	Not Reported	Conv facto:	Not Reported
Calc pop:	Not Reported	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

5

WSW

1/4 - 1/2 Mile
Lower

WV WELLS

WVWELL0785

Id number:	2094	Pwsid:	WV9915019
Sys name:	NEWELL SPECIALITY CHEMICALS		
Facility id:	565552		
Fac name:	WELL 2		
City:	Not Reported	County:	HANCOCK
Act status:	I	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	36	Sys type:	Non Transient Non Community
Latitude:	40.574722	Longitude:	-80.656389
Elevation:	0	Updated:	Y
Wdate:	051101		
Description:	Inactive on 03/27/01 list		
User initi:	RWW	Gudi statu:	Not Reported
Sourcetype:	Not Reported	Whp radius:	0
Prod gpd:	Not Reported	Conv facto:	Not Reported
Calc pop:	Not Reported	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

6

West

1/4 - 1/2 Mile
Lower

FED USGS

USGS2266466

Agency cd:	USGS	Site no:	403433080392901
Site name:	Hnc-0082		
Latitude:	403433.29	Dec lat:	40.57591389
Longitude:	0803929.25	Coor meth:	G
Dec lon:	-80.658125	Latlong datum:	NAD83
Coor accr:	S	District:	54
Dec latlong datum:	NAD83	County:	029
State:	54	Land net:	Not Reported
Country:	US	Map scale:	24000
Location map:	Wellsville	Altitude method:	M
Altitude:	730	Altitude datum:	NGVD29
Altitude accuracy:	10		
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1969
Date inventoried:	20020724	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	123	Hole depth:	123
Source of depth data:	owner	Project number:	445408400
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	2002-07-24
Water quality data end date:	2002-07-24	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

7

WSW

**1/4 - 1/2 Mile
Lower**

WV WELLS

WVWELL1302

Id number:	2605	Pwsid:	WV9915038
Sys name:	B O C GASES		
Facility id:	746363		
Fac name:	WELL		
City:	NEW CUMBERLAND	County:	HANCOCK
Act status:	A	Water type:	Groundwater
Owner type:	Not Reported	Daily prod:	0
Sys popula:	63	Sys type:	Non Transient Non Community
Latitude:	40.574444	Longitude:	-80.659444
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Description:	Not Reported		
User initi:	Not Reported	Gudi statu:	Not Reported
Sourcetype:	Not Reported	Whp radius:	750
Prod gpd:	3150	Conv facto:	50
Calc pop:	63	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

8

NW

**1/2 - 1 Mile
Lower**

FED USGS

USGS2266479

Agency cd:	USGS	Site no:	403458080392501
Site name:	Hnc-0039		
Latitude:	403458	Dec lat:	40.58284212
Longitude:	0803925	Coor meth:	M
Dec lon:	-80.656741	Latlong datum:	NAD27
Coor accr:	S	District:	54
Dec latlong datum:	NAD83	County:	029
State:	54	Land net:	Not Reported
Country:	US	Map scale:	24000
Location map:	WELLSVILLE	Altitude method:	M
Altitude:	740.00	Altitude datum:	NGVD29
Altitude accuracy:	10		
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Alluvial or marine terrace		
Site type:	Ground-water other than Spring	Date construction:	19660526
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	CONEMAUGH FORMATION		
Well depth:	335	Hole depth:	335
Source of depth data:	owner	Project number:	445405100
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1966-05-26	Ground water data end date:	1966-05-26
Ground water data count:	1		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1966-05-26	86.00	

9
West
1/2 - 1 Mile
Lower

FED USGS USGS2266467

Agency cd:	USGS	Site no:	403434080394301
Site name:	Hnc-0036		
Latitude:	403434		
Longitude:	0803943	Dec lat:	40.57617552
Dec lon:	-80.66174126	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	WELLSVILLE	Map scale:	24000
Altitude:	720.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19680101
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	118	Hole depth:	Not Reported
Source of depth data:	owner	Project number:	445405100
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

A10
WNW
1/2 - 1 Mile
Lower

FED USGS USGS2266475

Agency cd:	WV002	Site no:	403445080394401
Site name:	Hnc-0064		
Latitude:	403445		
Longitude:	0803944	Dec lat:	40.57923102
Dec lon:	-80.66201903	Coor meth:	M
Coor accr:	U	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude:	Not Reported	Altitude method:	Not Reported
Altitude accuracy:	Not Reported	Altitude datum:	Not Reported
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19931108	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	54007
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

A11
WNW
1/2 - 1 Mile
Lower

FED USGS USGS2266474

Agency cd:	USGS	Site no:	403444080394501
Site name:	Hnc-0037		
Latitude:	403444		
Longitude:	0803945	Dec lat:	40.57895325
Dec lon:	-80.66229683	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	WELLSVILLE	Map scale:	24000
Altitude:	720.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19640101
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	111	Hole depth:	114
Source of depth data:	owner	Project number:	445405100
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1982-08-17
Water quality data end date:	2002-07-23	Water quality data count:	3
Ground water data begin date:	1964-07-29	Ground water data end date:	1964-07-29
Ground water data count:	1		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1964-07-29	58.20	

A12
WNW
1/2 - 1 Mile
Lower

FED USGS USGS2266478

Agency cd:	USGS	Site no:	403447080394601
Site name:	Hnc-0038		
Latitude:	403447		
Longitude:	0803946	Dec lat:	40.57978656
Dec lon:	-80.66257461	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	WELLSVILLE	Map scale:	24000
Altitude:	720.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	106	Hole depth:	Not Reported
Source of depth data:	owner	Project number:	445405100
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

13
West
1/2 - 1 Mile
Lower

WV WELLS WVWELL0566

Id number:	1852	Pwsid:	WV9915033
Sys name:	BOBBY D'S		
Facility id:	746139		
Fac name:	BOBBY D'S		
City:	Not Reported	County:	HANCOCK
Act status:	A	Water type:	Groundwater
Owner type:	Private	Daily prod:	0
Sys popula:	100	Sys type:	Non Community
Latitude:	40.575	Longitude:	-80.665
Elevation:	0	Updated:	Not Reported
Wdate:	Not Reported		
Description:	Not Reported		
User initi:	Not Reported	Gudi statu:	No
Sourcetype:	Not Reported	Whp radius:	500
Prod gpd:	625	Conv facto:	25
Calc pop:	25	Seasonbegi:	Not Reported
Season end:	Not Reported	Facility type:	Well

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

B14
SSE
1/2 - 1 Mile
Lower

FED USGS USGS2266462

Agency cd:	USGS	Site no:	403353080382901
Site name:	Hnc-0052S		
Latitude:	403353		
Longitude:	0803829	Dec lat:	40.564787
Dec lon:	-80.64118486	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	WELLSVILLE	Map scale:	24000
Altitude:	690.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Valley flat		
Site type:	Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Spring		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	445408500
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

B15
SSE
1/2 - 1 Mile
Lower

FED USGS USGS2266461

Agency cd:	USGS	Site no:	403353080382801
Site name:	Hnc-0035		
Latitude:	403353		
Longitude:	0803828	Dec lat:	40.56478701
Dec lon:	-80.64090707	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	54
State:	54	County:	029
Country:	US	Land net:	Not Reported
Location map:	WELLSVILLE	Map scale:	24000
Altitude:	690.00	Altitude method:	M
Altitude accuracy:	10	Altitude datum:	NGVD29
Hydrologic:	Upper Ohio. Ohio, Pennsylvania, West Virginia. Area = 1950 sq.mi.		
Topographic:	Alluvial or marine terrace		
Site type:	Ground-water other than Spring	Date construction:	19670101
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	65.0	Hole depth:	65.0
Source of depth data:	owner	Project number:	445405100
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1982-08-18
Water quality data end date:	1982-08-18	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

EPA Region 3 Statistical Summary Readings for Zip Code: 26047

Number of sites tested: 50.

Maximum Radon Level: 41.9 pCi/L.

Minimum Radon Level: 0.2 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
33 (66.00%)	9 (18.00%)	6 (12.00%)	2 (4.00%)	0 (0.00%)	0 (0.00%)

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

West Virginia Water Well Information

Source: Bureau of Public Health

Telephone: 304-558-6765

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRRA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

EPA Region 3 Statistical Summary Readings

Source: Region 3 EPA

Telephone: 215-814-2082

Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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Appendix 2.
CLP ANALYSIS RESULTS

Appendix 3.

SPLIT SAMPLING ANALYSIS RESULTS

Appendix 4.

2006 HRS Site Score Package

****** CONFIDENTIAL ******
******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: Thiokol-Specialty Chemical
Division

Region: 3

City, County, State: Hancock County WV

Evaluator: Lydia Work

EPA ID#: WVD074968413

Date: 11/2/2006

Lat/Long:

T/R/S:

Congressional District:

This Scoresheet is for: Other

Scenario Name: Site Inspection Reassessment

Description: Contaminated soil and groundwater from former waste storage and disposal

	S pathway	S ² pathway
Ground Water Migration Pathway Score (S _{gw})	100	10000
Surface Water Migration Pathway Score (S _{sw})	8.65	74.8225
Soil Exposure Pathway Score (S _s)	3.6	12.96
Air Migration Score (S _a)		
$S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$		10087.7825
$(S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2)/4$		2521.945625
$\sqrt{(S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2)/4}$		50.22

* Pathways not assigned a score (explain): Air migration pathway was not included in the assessment.

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned
Aquifer Evaluated: Groundwater Public Supply Wells		
Likelihood of Release to an Aquifer:		
1. Observed Release	550	550
2. Potential to Release:		
2a. Containment	10	10
2b. Net Precipitation	10	10
2c. Depth to Aquifer	5	3
2d. Travel Time	35	35
2e. Potential to Release [(lines 2a(2b + 2c + 2d)]	500	480
3. Likelihood of Release (higher of lines 1 and 2e)	550	550
Waste Characteristics:		
4. Toxicity/Mobility	(a)	10000
5. Hazardous Waste Quantity	(a)	100
6. Waste Characteristics	100	32
Targets:		
7. Nearest Well	(b)	9
8. Population:		
8a. Level I Concentrations	(b)	0
8b. Level II Concentrations	(b)	0
8c. Potential Contamination	(b)	523
8d. Population (lines 8a + 8b + 8c)	(b)	523
9. Resources	5	5
10. Wellhead Protection Area	20	0
11. Targets (lines 7 + 8d + 9 + 10)	(b)	537
Ground Water Migration Score for an Aquifer:		
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000] ^c	100	100
Ground Water Migration Pathway Score:		
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated) ^c	100	100

^a Maximum value applies to waste characteristics category

^b Maximum value not applicable

^c Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned
Watershed Evaluated: Dry Run		
Drinking Water Threat		
Likelihood of Release:		
1. Observed Release	550	550
2. Potential to Release by Overland Flow:		
2a. Containment	10	10
2b. Runoff	10	1
2c. Distance to Surface Water	5	20
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	210
3. Potential to Release by Flood:		
3a. Containment (Flood)	10	0
3b. Flood Frequency	50	0
3c. Potential to Release by Flood (lines 3a x 3b)	500	0
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	210
5. Likelihood of Release (higher of lines 1 and 4)	550	550
Waste Characteristics:		
6. Toxicity/Persistence	(a)	100
7. Hazardous Waste Quantity	(a)	100
8. Waste Characteristics	100	32
Targets:		
9. Nearest Intake	50	0
10. Population:		
10a. Level I Concentrations	(b)	0
10b. Level II Concentrations	(b)	0
10c. Potential Contamination	(b)	0.005
10d. Population (lines 10a + 10b + 10c)	(b)	0.01
11. Resources	5	5
12. Targets (lines 9 + 10d + 11)	(b)	5.01
Drinking Water Threat Score:		
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100	0.33
Human Food Chain Threat		
Likelihood of Release:		
14. Likelihood of Release (same value as line 5)	550	550
Waste Characteristics:		
15. Toxicity/Persistence/Bioaccumulation	(a)	5000000
16. Hazardous Waste Quantity	(a)	100
17. Waste Characteristics	1000	100
Targets:		
18. Food Chain Individual	50	2
19. Population		
19a. Level I Concentration	(b)	0
19b. Level II Concentration	(b)	0
19c. Potential Human Food Chain Contamination	(b)	100
19d. Population (lines 19a + 19b + 19c)	(b)	
20. Targets (lines 18 + 19d)	(b)	2
Human Food Chain Threat Score:		
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100	1.33
Environmental Threat		
Likelihood of Release:		
22. Likelihood of Release (same value as line 5)	550	550
Waste Characteristics:		
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	50000000
24. Hazardous Waste Quantity	(a)	100
25. Waste Characteristics	1000	180

Targets:

26. Sensitive Environments		
26a. Level I Concentrations	(b)	5
26b. Level II Concentrations	(b)	5
26c. Potential Contamination	(b)	5
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	
27. Targets (value from line 26d)	(b)	

Environmental Threat Score:

28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60	0
Surface Water Overland/Flood Migration Component Score for a Watershed		
29. Watershed Score ^c (lines 13+21+28, subject to a max of 100)	100	1.66

Surface Water Overland/Flood Migration Component Score

30. Component Score (S_{sw}) ^c (highest score from line 29 for all watersheds evaluated)	100	1.66
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^a Maximum value applies to waste characteristics category

^b Maximum value not applicable

^c Do not round to nearest integer

TABLE 4-25 --GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned
Aquifer Evaluated: Ohio River		
Drinking Water Threat		
Likelihood of Release to an Aquifer:		
1. Observed Release	550	0
2. Potential to Release:		
2a. Containment	10	10
2b. Net Precipitation	10	10
2c. Depth to Aquifer	5	3
2d. Travel Time	35	35
2e. Potential to Release [(lines 2a(2b + 2c + 2d)]	500	480
3. Likelihood of Release (higher of lines 1 and 2e)	550	480
Waste Characteristics:		
4. Toxicity/Mobility	(a)	4000
5. Hazardous Waste Quantity	(a)	100
6. Waste Characteristics	100	18
Targets:		
7. Nearest Well	(b)	0
8. Population:		
8a. Level I Concentrations	(b)	0
8b. Level II Concentrations	(b)	0
8c. Potential Contamination	(b)	0.3
8d. Population (lines 8a + 8b + 8c)	(b)	0.3
9. Resources	5	5
10. Targets (lines 7 + 8d + 9)	(b)	5.3
Drinking Water Threat Score:		
11. Drinking Water Threat Score [(lines 3 x 6 x 10)/82,500, subject to max of 100]	100	0.555054545 454545
Human Food Chain Threat		
Likelihood of Release:		
12. Likelihood of Release (same value as line 3)	550	480
Waste Characteristics:		
13. Toxicity/Mobility/Persistence/Bioaccumulation	(a)	500000
14. Hazardous Waste Quantity	(a)	100
15. Waste Characteristics	1000	56
Targets:		
16. Food Chain Individual	50	
17. Population		
17a. Level I Concentration	(b)	0
17b. Level II Concentration	(b)	0
17c. Potential Human Food Chain Contamination	(b)	0
17d. Population (lines 17a + 17b + 17c)	(b)	0
18. Targets (lines 16 + 17d)	(b)	20
Human Food Chain Threat Score:		
19. Human Food Chain Threat Score [(lines 12x15x18)/82,500,subject to max of 100]	100	6.516363636 36364
Environmental Threat		
Likelihood of Release:		
20. Likelihood of Release (same value as line 3)	550	480
Waste Characteristics:		
21. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	2000
22. Hazardous Waste Quantity	(a)	100
23. Waste Characteristics	1000	18
Targets:		
24. Sensitive Environments		
24a. Level I Concentrations	(b)	5

24b. Level II Concentrations	(b)	5	
24c. Potential Contamination	(b)	5	
24d. Sensitive Environments (lines 24a + 24b + 24c)	(b)	15	
25. Targets (value from line 24d)	(b)		15
Environmental Threat Score:			
26. Environmental Threat Score [(lines 20x23x25)/82,500 subject to a max of 60]	60		1.57
Ground Water to Surface Water Migration Component Score for a Watershed			
27. Watershed Score ^c (lines 11 + 19 + 28, subject to a max of 100)	100		8.65
28. Component Score (S _{gs}) ^c (highest score from line 27 for all watersheds evaluated, subject to a max of 100)	100		8.65

^a Maximum value applies to waste characteristics category

^b Maximum value not applicable

^c Do not round to nearest integer

TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned
Likelihood of Exposure:		
1. Likelihood of Exposure	550	550
Waste Characteristics:		
2. Toxicity	(a)	10000
3. Hazardous Waste Quantity	(a)	10
4. Waste Characteristics	100	18
Targets:		
5. Resident Individual	50	0
6. Resident Population:		
6a. Level I Concentrations	(b)	0
6b. Level II Concentrations	(b)	0
6c. Population (lines 6a + 6b)	(b)	0
7. Workers	15	5
8. Resources	5	0
9. Terrestrial Sensitive Environments	(c)	25
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)	30
Resident Population Threat Score		
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)	297000
Nearby Population Threat		
Likelihood of Exposure:		
12. Attractiveness/Accessibility	100	10
13. Area of Contamination	100	20
14. Likelihood of Exposure	500	5
Waste Characteristics:		
15. Toxicity	(a)	10000
16. Hazardous Waste Quantity	(a)	10
17. Waste Characteristics	100	0
Targets:		
18. Nearby Individual	1	0
19. Population Within 1 Mile	(b)	87
20. Targets (lines 18 + 19)	(b)	
Nearby Population Threat Score		
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)	0
Soil Exposure Pathway Score:		
22. Pathway Score ^d (S _s), [(lines (11+21)/82,500, subject to max of 100]	100	3.6

^a Maximum value applies to waste characteristics category

^b Maximum value not applicable

^c No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60

^d Do not round to nearest integer

Scratch Pad Contents for Thiokol-Specialty Chemical Division - Site Inspection Reassessment - GW Pathway

Scenario Description: Contaminated soil and groundwater from former waste storage and disposal

Done	Line No	Item	Ref
✓	WC	Public Supply Wells only had Level II Concentration substances.	
✓	WC	Lead was included as an observed release due to its detection in PW4 even though the concentration is below the CRDL.	

Level II concentrations are HRS observed releases detected above the CRDL concentration but below action levels.

Scratch Pad Contents for Thiokol-Specialty Chemical Division - Site Inspection Reassessment - SW Pathway

Scenario Description: Contaminated soil and groundwater from former waste storage and disposal

Done	Line No	Item	Ref
✓	WC	Mountaineer Gaming Ponds only entered Level I Concentration substances.	

Level I concentrations are HRS observed releases detected above the CRDL and action levels.

Scratch Pad Contents for Thiokol-Specialty Chemical Division - Site Inspection Reassessment - Soil Pathway

Scenario Description: Contaminated soil and groundwater from former waste storage and disposal

Done	Line No	Item	Ref
✓	WC	Only entered Level I Concentration substances (mercury and benzo(a)pyrene).	

Level I concentrations are HRS observed releases detected above the CRDL and action levels.